TexasArchitect

NOVEMBER/DECEMBER 2005

Art in Architecture

p. 24

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SAMA Asian Wing

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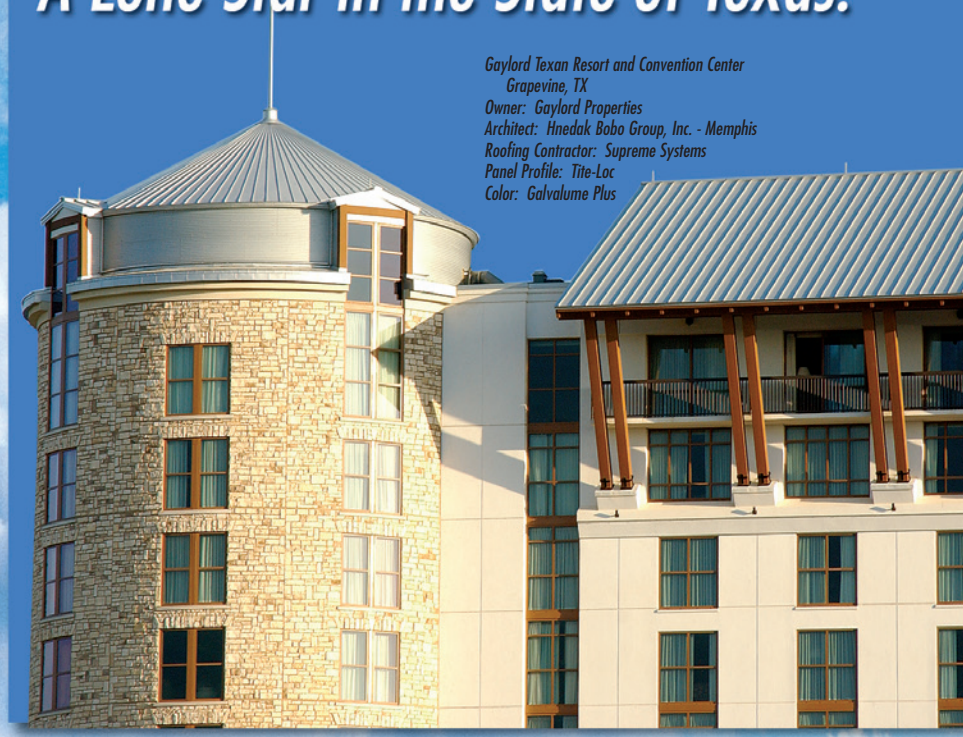

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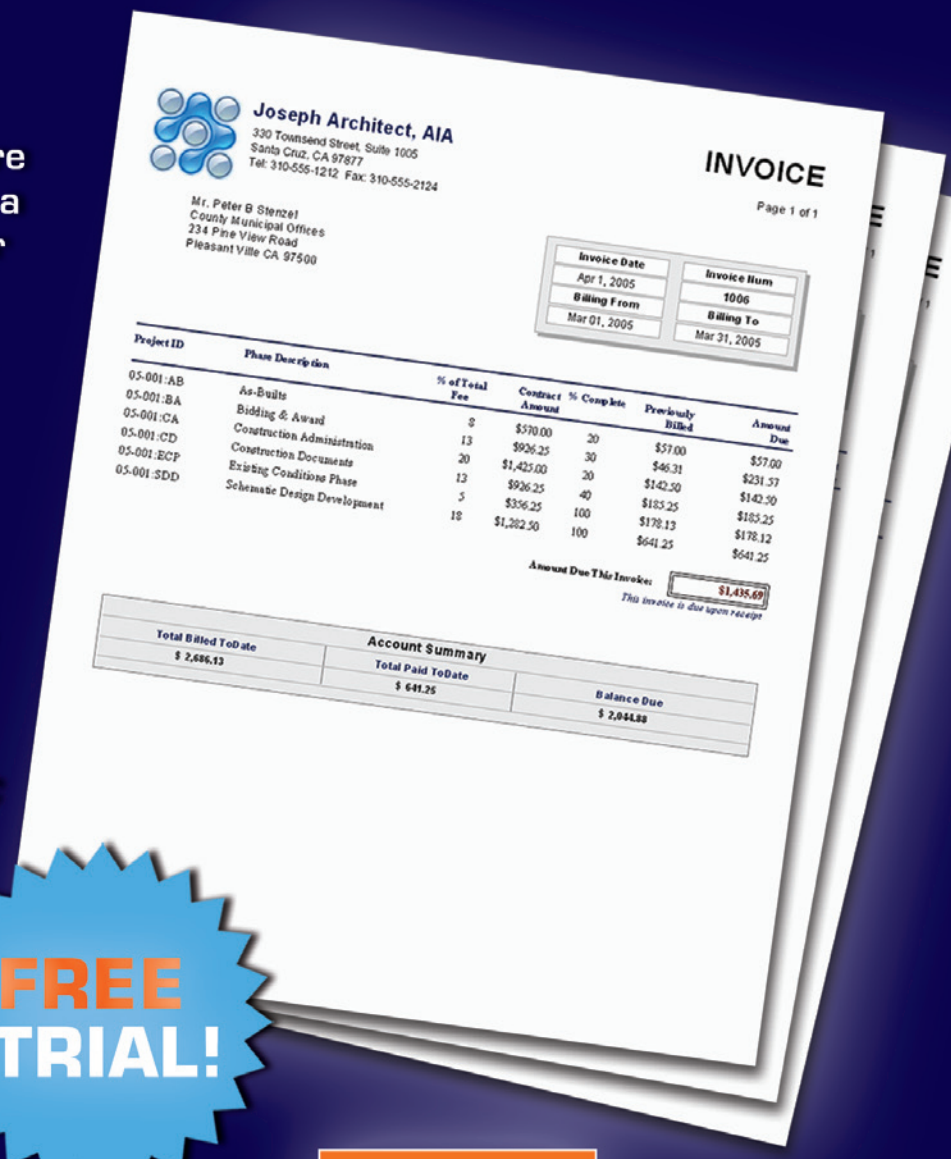
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Invoice Date	Invoice Num
Apr 1, 2005	1006
Billing From	Billing To
Mar 01, 2005	Mar 31, 2005

Project ID	Phase Description	% of Total Fee	Contract Amount	% Complete	Previously Billed	Amount Due
05-001:AB	As-Builts	8	$570.00	20	$57.00	$57.00
05-001:BA	Bidding & Award	13	$926.25	30	$46.31	$231.57
05-001:CA	Construction Administration	20	$1,425.00	20	$142.50	$142.50
05-001:CD	Construction Documents	13	$926.25	40	$185.25	$185.25
05-001:ECP	Existing Conditions Phase	5	$356.25	100	$178.13	$178.12
05-001:SDD	Schematic Design Development	18	$1,282.50	100	$641.25	$641.25

Amount Due This Invoice: $1,435.69

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$ 2,686.13	Total Paid ToDate	Balance Due
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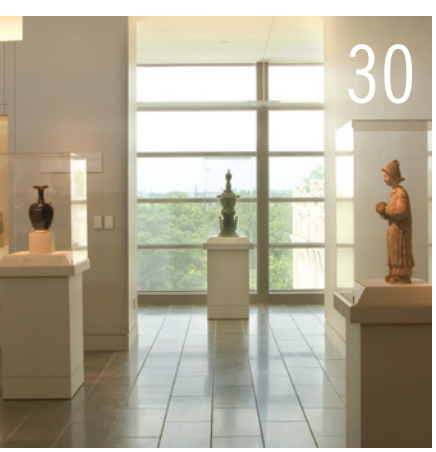

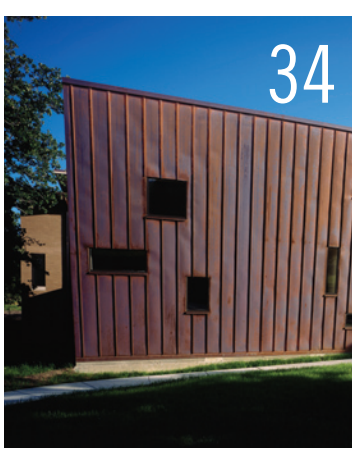

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ON THE COVER
Untitled (in honor of Harold Joachim) 3 from 1977 was among 50 works from "Dan Flavin: A Retrospective" exhibited earlier this year at the Modern Art Museum of Fort Worth. Photo by Billy Jim courtesy Dia Art Foundation.

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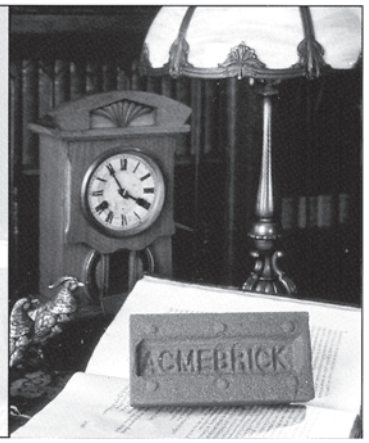

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Art in Architecture

San Antonio flaunts its public works

KINNISON AND ASSOCIATES

***Tool Yard* by Riley Robinson at the City of San Antonio Northeast Service Center**

SAN ANTONIO artists will be in the spotlight in November when writers and critics from several national magazines and newspapers attend a conference focused on the city's public art installations. The Writers & Artists Exchange, better known as WAX, will give the City of San Antonio an opportunity to show off its many successful public art projects to writers from *The New York Times, Art Forum, Texas Architect*, and another dozen publications. As anyone who has lived in San Antonio knows, and as Mayor Phil Hardberger states in a letter addressed to attendees, the nation's tenth-largest city is a "hidden gem."

Blue Star Art Space, along with six other local visual art institutions, is collaborating with the City of San Antonio's Office of Cultural Affairs, Convention and Visitors Bureau, and Public Works Department to sponsor four days of tours of artist studios, public works, and receptions designed around the theme "Art in the Built Environment." The conference builds on a similar event held in 2003 that culminated in a lively symposium attended by more than 500 artists, collectors, arts professionals, and interested residents. Momentum for a second WAX grew after Blue Star Arts Space secured a grant from the National Endowment for the Arts. Blue Star's NEA grant application summed up the prospects this way: "WAX II promises to be a dialogue that will influence public policy. ...The participants bring a national perspective to our local artists and arts professionals and will shape and inform our community decision-making regarding the role of art/artists in San Antonio."

Blue Star Executive Director Bill FitzGibbons describes the conference as a affirmation for local artists. "Imagine being a visual artist and having writers from the national arts and architecture magazines walk into your studio," he says. "This is an unprecedented program." Adding further impact is the personal involvement of Mayor Hardberger and Bexar County Judge Nelson Wolfe. Their participation, FitzGibbons says, "telegraphs to the artists that the support comes from the top."

Taxpayer support for the arts in San Antonio is indeed extraordinary. Administered by the Public Works Department through its Public Art & Design Enhancement Program, funding for public art is earmarked for capital improvement projects, including work on streets and drainage. Moreover, the City Council has added a half million dollars to the 2005-06 fiscal budget to develop strategies for public art and to draft a public arts master plan for the city.

COURTESY AZTEC ON THE RIVER

Overland Partners' Aztec Theatre Riverwalk Improvements in progress in October.

Among the publicly funded projects are several on the WAX tour, such as:

• Julia Yates Semmes Branch Library at Comanche Lookout Park—Scheduled for completion in November and designed by Ken Rehler, AIA, principal of RVK Architects, the 15,000-sf library features environmentally sensitive architecture and *Spirit of the Comanche*, a 10 x 18-foot forged-steel sculpture by George Schroeder installed on the grounds.

• City of San Antonio Northeast Service Center—Paul Kinnison Jr., FAIA, principal of Kinnison and Associates, designed the project that integrates Riley Robinson's *Tool Yard*, a playful assemblage of 11 giant-scale metal hand tools ranging from 12 to 20 feet tall and standing adjacent to the building. The project was completed in 2003.

• Aztec Theatre Riverwalk Improvements—In 2002, Overland Partners created river-level access to the historic Aztec Theatre. The building that houses the theater, now being restored, is undergoing a major redevelopment as Aztec on the River for mixed use. Along the Paseo del Rio entrance is a large Aztec calendar rendered in terrazzo and a massive tapered column that will be crowned with a sculpted head of the Aztec Corn Goddess by Juan Navarro.

With so many public arts projects completed or under construction, the time is right for San Antonio to flaunt its successes. The WAX conference is the ideal venue to get the message out about the many facets of this "hidden gem."

STEPHEN SHARPE

2006 EDITORIAL CALENDAR | TexasArchitect

	ISSUE	*EDITORIAL FOCUS*
Ads Close: **Nov. 18, 2005**	**JANUARY/FEBRUARY**	**SCHOOLS**
	Portfolio: Selected projects from 2005 TASA/TASB design awards program	
	Insight: Masonry and Concrete (bonus space for ads in this section)	
Ads Due: **Dec. 1, 2005**	**Bonus Distribution:** TASA/TEA Mid-Winter Conference, Jan. 30-Feb. 1 (Austin); National Association of Home Builders Trade Show, Jan. 11-14 (Orlando); Texas Association of School Business Officials Trade Show, Feb. 20-24 (Fort Worth)	
Ads Close: **Jan. 27, 2006**	**MARCH/APRIL**	**HISTORIC PRESERVATION**
	Portfolio: Texas Courthouses	
	Insight: Acoustics (bonus space for ads in this section)	
Ads Due: **Feb. 2, 2006**	**Bonus Distribution:** Texas Historical Commission Annual Preservation Conference, April 20-22 (Galveston)	
Ads Close: **Feb. 24, 2006**	**TSA HANDBOOK**	**2006 DIRECTORY OF TEXAS ARCHITECTS AND GUIDE TO TSA**
	This invaluable directory contains names of all members and firms of TSA, as well as TSA bylaws, a guide to the Texas Legislature, and profiles of TSA's committees.	
Ads Due: **March 2, 2006**	**Architects' Guide to Professional Consultants:** For only $275 each, professionals who provide services to architects will be featured in this valuable directory.	
	Buyers' Guide to Services and Products: Manufacturers and suppliers can be a part of this section for only $275, or free if you buy a display ad in this issue.	
	This $50 directory and resource guide reaches all Texas members of AGC and CSI, government officials, and more – all year long.	
Ads Close: **March 24, 2006**	**MAY/JUNE**	**NATURE**
	Portfolio: Sports and Recreation Facilities	
	Insight: Risk Assessment (bonus space for ads in this section)	
Ads Due: **March 30, 2006**	**Bonus Distribution:** AIA National Convention and Trade Show, June 8-10 (Los Angeles); Texas City Management Association Annual Conference (TBD); Metrocon/International Interior Design Association Conference, June 12-14 (Chicago)	
Ads Close: **May 26, 2006**	**JULY/AUGUST**	**COLOR**
	Portfolio: Retail Architecture	
	Insight: Walls and Ceilings (bonus space for ads in this section)	
Ads Due: **June 1, 2006**	**Bonus Distribution:** Texas Masonry Council Annual Convention (TBD)	
Ads Close: **July 28, 2006**	**SEPTEMBER/OCTOBER**	**TSA DESIGN AWARDS**
	10% Advertising Discount for TSA Exhibitors! Reach the state's most active architects and school officials by placing your ad in this issue, traditionally the biggest, widest-read issue of the year.	
Ads Due: **Aug. 3, 2006**	**Portfolio:** Healthcare Facilities	
	Insight: Moisture Management (bonus space for ads in this section)	
	Bonus Distribution: TSA 67th Annual Convention & Expo, Nov. 2-4 (Dallas); TASA/TASB Trade Show, Oct. 6-8 (Houston); Texas Municipal League Annual Conference, Oct. 25-28 (Austin); Texas Hospital Association Leadership Conference, Oct. 9-11 (Austin); Roofing Contractors Association of Texas, Oct. 4-6 (Austin)	
Ads Close: **Sept. 22, 2006**	**NOVEMBER/DECEMBER**	**PLACEMAKING**
	Portfolio: Home Design Innovations	
	Insight: New Trends in "Green Building" (bonus space for ads in this section)	
Ads Due: **Sept. 28, 2006**	**Bonus Distribution:** U.S. Green Building Council National Trade Show (TBD)	

In the essay "TSA Design Awards 1952-2005," the accompanying table (see Sept/Oct 2005, p. 106) omitted Bailey Architects from the list of firms that have received six or more TSA Design Awards throughout the program's 55-year history. The Houston firm, formerly known as Ray Bailey Architects, has garnered a total of eight TSA Design Awards. Texas Architect regrets the error.

The news story "Tabb Departs as A&M Department Head" (Sept/Oct 2005, p. 19) misidentified the newly appointed interim head of the Department of Architecture within Texas A&M University's College of Architecture. Dr. Mardelle Shepley, AIA, was appointed to the position following the departure of Dr. Phillip Tabb, AIA, as department head. Shepley will serve until a permanent replacement has been selected. To further correct that error, Dr. Charles W. Graham, AIA, was appointed interim head of the Department of Construction Science within A&M's College of Architecture. Both Shepley and Graham began their new duties in September.

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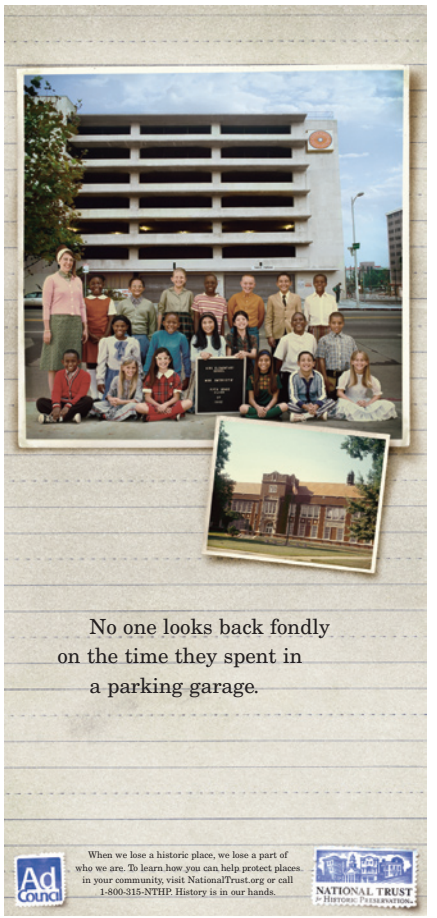

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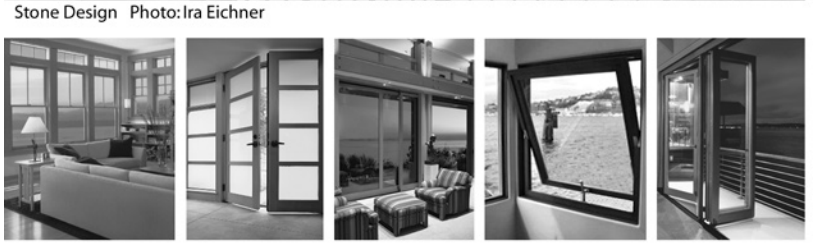

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Rita's Destruction Still Being Assessed

Orange County was among the regions in Texas most damaged by Hurricane Rita after she made landfall off the Gulf coast early on the morning of Sept. 24.

SOUTHEAST TEXAS Hurricane Rita, with winds gusting up to 120 mph, made landfall on Sept. 24 about 30 miles east of the Texas-Louisiana border, just three weeks after Hurricane Katrina – possibly the most costly natural disaster in U.S. history – devastated cities and towns along the Gulf Coast of Louisiana, Mississippi, and Alabama. Frightened by the potential for heavy damage from high winds and flooding, an estimated two million evacuees from the Houston/Galveston metro region jammed the highways leading inland to safety. Luckily for the residents of Southeast Texas, Rita turned just before she slammed into Cameron Parish, south of Lake Charles.

Although Houston was largely untouched by the storm, some areas of towns to the east, such as Beaumont and Port Arthur, were rendered uninhabitable. Rita destroyed homes, caused power outages, felled trees, and flooded streets in communities between Houston and New Orleans. With power out in some affected areas for many days afterward, the full impact of the storm on the architectural community in Southeast Texas was still unknown by mid-October as efforts to assess the damage slowly got underway.

PHOTOS: THE BEAUMONT ENTERPRISE, MARK M. HANCOCK

Wind damage was extensive in areas across Southeast Texas as Hurricane Rita tore through towns like Bridge City, which lies 12 miles northeast of Port Arthur.

In addition to aid from the Federal Emergency Management Administration and the Red Cross, the architectural profession is playing a critical role in the recovery. The national AIA, with a significant contribution from the Texas Society of Architects, has extended financial aid to displaced architects from Rita through recent initiatives such as the "Displaced Architects Fund." Concurrently, AIA chapters in Texas are administering online services that track available work for design professionals. "We're trying to get people information and coordinate a response," said Barrie Scardino, executive director of AIA Houston, which has set up a "Katrina Relief Job Board" area of its Web site (*www.aiahoutx.org*). Job banks for those displaced by Rita also are operated by AIA Dallas and AIA Fort Worth.

The earliest relief efforts among the architectural community, however, came from individual architects who began working within their own communities to carry out assessments and volunteering with local and federal aid groups, said Rob Clark, AIA, of Architectural Alliance in Beaumont. "The community finds itself in need of the resources of architect designers [because] they know what works and doesn't work," Clark said. "Commitment to community and volunteering is part of being an architect."

The greatest economic impact on the affected communities, Clark said, may be the combination of a temporary loss of jobs, disruption of business activity, and the departure of residents from storm-damaged areas. Ironically, because of the damages sustained in Southeast Texas, Hurricane Rita is expected to provide an economic boost to the architectural sector in coming months. In the three weeks immediately following Rita's landfall, architects in Southeast Texas have been compiling cost estimates and repair surveys for their local governments and established clients in order to secure funding from insurance companies to repair and rebuild, said Greg Wall, AIA, of Beaumont, who serves as AIA Southeast Texas' TSA director. Clark agreed that the eventual reconstruction will boost business, but cautioned that future projects for architects will come slowly and not necessarily steadily. Besides, he said, another two months is likely to pass before building owners can develop plans for reconstruction.

Once reconstruction begins, the work in Southeast Texas and other parts of the Gulf Coast could have a negative economic impact on other parts of Texas because of the drain on the avail-

"Hurricane" continued on page 10

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"Hurricane" continued from page 8

able workforce and supply of materials. To offset those shortages, some architects are suggesting that regional strategies be developed to manage the flow of previously abundant materials, such as plywood and gypsum board. "This will affect people in Austin, Dallas—everywhere, because crews are working on the Gulf Coast where there is more work and more money," said Dohn LaBiche, AIA, of the LaBiche Architectural Group in Beaumont. "It will be years before a full revival, and it will be hard to find people to do the work."

With little or no outside assistance during the first few days following Rita, many impacted communities, inexperienced in such disaster relief, have found themselves facing the difficulty of determining a course of action beyond initial damage control and repairs. In Southeast Texas, architects anticipate an emphasis on preplanning and rebuilding strategies providing for stronger structures in coastal areas. New roofing and wind-loading requirements will likely be considered by rebuilding teams in the coming months, Wall said.

How can cities better prepare for this type of situation? The solution may lie in preplanning, which would not only reinforce buildings to withstand storms, but would help make future rebuilding efforts more efficient, Clark said. "You can't start reconstruction until you decide what business markets will support the city, and that's why preplanning needs to happen," he said. "It is a necessity that buildings be able to withstand hurricane-force winds, especially places like civic centers, multi-purpose assemblies, fueling centers, grocery establishments, and privately owned support facilities."

This emphasis on preplanning extends beyond the architectural community in Southeast Texas. In the aftermath of Hurricane Katrina, the national AIA initiated a nationwide call for federal legislation to provide redevelopment strategies with focus on permanent solutions for affected communities.

With impacted communities across Southeast Texas still months away from the construction phase, however, current efforts will continue to focus on regaining basic utilities, clearing debris, and bringing businesses back into the community. "It is our responsibility," Wall said. "What we can do as architects to help the community back on their feet is what we need to do."

ASHLEY ST. CLAIR

Interns Meet at National Conference, Develop IDP Course of Action

SAN ANTONIO The national AIA and National Council of Architectural Registration Boards (NCARB) hosted the 2005 National Internship Conference on Sept. 22-25 at San Antonio's historic Empire Theatre. Despite the threat of Hurricane Rita in the Gulf Coat region, the conference moved forward as scheduled, with over 70 people from across North America in attendance.

Twenty-five emerging professionals (a term used in place of "intern") were selected from a pool of essayists drawn from an essay competition held earlier this year. Others that joined the emerging professionals included representatives from the five collateral organizations of AIA, NCARB, NAAB, ACSA, and AIAS.

The conference evolved around four motivational words—empowering, innovating, envisioning, and connecting. These words facilitated a process to move issues forward in addressing improvement with the established institution for architectural internship and to evolve toward a more beneficial and cohesive internship program. The goal of the conference was to draw from two previous events – the 1999 Collateral Summit on Architectural Internship and the 2002 National Summit on Architectural Internship – to continue the process toward ongoing national dialogue on issues affecting changes in internship.

In need of a course of action regarding the points discussed during the conference, the emerging professionals and other informed participants developed a list of seven points that were presented to the attendees. The emerging professionals' points on desired actions were: 1) interns would take the Architect Registration Exam upon graduation and concurrent with internship; 2) expand NCARB's Internship Development Program standards to allow alternative (non-traditional) paths to licensure; 3) NCARB should allow mentors to sign IDP forms as a verification to IDP training; 4) form an advocacy group on the ARE; 5) mentorship should be required within IDP training units;6) a percentage of CEUs should be required from mentoring; and 7) for validation and advancement on the next IDP conference, state boards must be participants. An eighth point was later added to better integrate foreign-educated architects in internship and licensure.

Mentorship was a poignant concern among the emerging professionals, especially since several of them were participating in non-traditional settings, such as community-based, non-profit organizations which do not typically involve IDP-qualified staff. (According to the 2005 Internship and Career Survey, approximately twenty percent of IDP participants followed a non-tradional path.) Mentorship should be a "laddership," where everyone helps everyone depending on place, time, and opportunity, said speaker Grace Kim. In such a system, even interns would be expected to mentor each other. "I challenge you to do more than talk about what is 'broken' in our current system or the proposed changes that can be made at the national level," Kim said. "I would ask that you look back and see who is behind you on the ladder and give them a hand up."

CHERYL DAVANI, ASSOC. AIA

UT Launches Online Exhibition on Texas Architecture

AUSTIN The UT School of Architecture's Visual Resources Collection (VRC) has expanded the exhibition "Texas Architecture: A Visual History," which documents Texas' architectural heritage, to include an online exhibition by the same name through the university's UTOPIA Web site (*utopia.utexas.edu/explore/txarch/index.html*).

An educational outreach initiative launched by the university, UTOPIA funds projects designed to share the intellectual treasures of UT with the community beyond the campus. The exhibition provides a historical overview of Texas' built environment and access to nearly 4,000 digitized images documenting Texas architecture from the Marian Davis and D. Blake Alexander slide collections. The VRC collaborated with the UT Libraries' Alexander Architectural Archive (AAA) and Digital Library Production Services (DLPS) to create the online version. The physical exhibition, which will continue through Jan. 6 at UT's Sutton Hall, showcases Austin's turn-of-the-century commercial architecture and includes images taken across Texas by Professor Emeritus D. Blake Alexander.

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Wharton Restores Its Courthouse Tower

WHARTON On Aug. 26, seven decades after its original tower was removed, the historic Wharton County Courthouse was recrowned and returned to its original 1889 appearance. The installation signified the completion of the first of two phases in a restoration project led by Houston-based Bailey Architects. Funded by matching grants from the Texas Historical Commission, the project is the most extensive courthouse restoration in the six-year-old Texas Historic Courthouse Preservation Program. In addition to erecting the new tower, which rises 92 feet above ground level, the original bell and an E. Howard clock identical to the earlier tower clock were installed. At an estimated cost of $6.1 million, full restoration of the courthouse is expected by next summer.

The courthouse stands in the middle of Wharton's downtown square, located about 60 miles southwest of Houston on U.S. Highway 59. Designed by Houston architect Eugene T. Heiner in the Second Empire style, the three-story brick and limestone structure underwent substantial remodeling in 1935 and 1949. Removal of its mansard roof and clock tower resulted in a Moderne style building. In addition, a one-story addition was placed around its base and the exterior walls of the entire courthouse were finished with stucco.

PHOTOS BY GERALD MOORHEAD, FAIA

Renovation of the Wharton County Courthouse will restore the building to its original appearance by summer 2006.

The scope of the current restoration first phase included reconstruction of the mansard roof and the tower, removal of the one-floor addition and stucco exterior, and restoration of exterior masonry and windows. Phase two will focus on interior restoration, including the rebuilding of the district courtroom and replication of original woodwork.

With no original drawings and only a few black-and-white photographs available, most of the information needed for the renovation was obtained through on-site investigation. Broken trim, drips of paint, and uncovered plaster served as clues to the structure's initial appearance, enabling Bailey Architects to accurately restore the building. "Courthouse restoration projects present some unique challenges, but this project has been fun and personally rewarding—learning about the history of the courthouse clue by clue," said Gerald Moorhead, FAIA, Bailey Architects' lead restoration architect for the project.

The project has renewed Wharton's courthouse square, once again making it the center of civic activity and community life. The clock tower, now visible from U.S. 59, draws visitors to the downtown where mature buildings surround the courthouse.

The Texas Historic Courthouse Preservation Program was established in June 1999 by the Texas Legislature. The first of its kind in the nation, the statewide program provides Texas counties with partial matching grants for the restoration of their historic courthouses. To date, 112 counties across the state are participating in the program, with 28 historic courthouses having been restored and rededicated.

ASHLEY ST. CLAIR

Extensive remodeling in the mid-1900s, including the removal of the courthouse tower, completely transformed its facade in an attempt to modernize the structure.

Another Nasher, This Time by Viñoly

DURHAM, NC The Oct. 2 opening of the Nasher Museum of Art at Duke University follows by two years the unveiling of Renzo Piano's Nasher Sculpture Center in Dallas. Set atop a small hill midway between the two major poles of the vast, forest-like Duke campus, the project's relationship to the landscape is among its strongest qualities. That relationship recalls the significance of Piano's collaboration with landscape architect Peter Walker on the Nasher Sculpture Center's elegant outdoor space. Where Rafael Viñoly Architects has wielded similar elements – masonry walls, a glass roof, and a splendidly landscaped setting – to those used by Piano at the Sculpture Center, the newer museum exhibits a variety of types of artwork in opaque boxes that offer a starkly different viewing experience to that encountered within Piano's essentially transparent galleries.

Still, natural light floods Viñoly's museum through a 13,000-square-foot, glass-covered "courtyard" that links five simple pavilions of varying sizes. Designed as a multi-purpose space, the courtyard also functions as a comfortably proportioned main entry lobby. The roof structure spans the courtyard without intermediate columns. Instead, steel box beams – they also function as ducts and touch each pavilion only once – form a pentagonal framing system faceted with panes of glass fritted in a line pattern to render the glazing 65 percent opaque. Moving from the outdoors and underneath the glass roof, occupants enjoy a continued relationship with the sky above, and the glazed gaps between the pavilions offer framed views of the landscape beyond. (Viñoly says that one of his first architectural memories as a small child in Uruguay was not of a building but rather of the courtyard at the family home.) This central volume, conceived as an abstraction of the natural landscape, is the main architectural gesture of the Duke project. Nevertheless, the space remains somewhat generic and tends towards atrium spaces so common in recent museum design.

The glass-roofed 'courtyard' connects the Nasher's five pavilions.

Three of the museum's five pavilions are devoted to exhibition, a fourth is a 170-seat auditorium, and a fifth contains classrooms, offices, a shop, a café, and support spaces on two levels. An eight-foot-thick "wall" between the courtyard and each gallery allows a transition between the spaces as well as a zone for mechanical equipment. The three virtually windowless galleries vary in volume (3,600-sf, 4,600-sf, and 5,700-sf), each with a ceiling height of approximately 17 feet. They are constructed with eight-foot-wide structural pre-cast concrete panels. The exterior face is grooved and sand blasted to reveal the aggregate. The interiors of the three gallery pavilions are restrained, white-walled spaces with green slate floors, and are modulated as necessary by simple, freestanding partitions. The simplicity and proportion of the spaces will most certainly allow them to successfully accommodate a wide variety of installations. (Works from the permanent collection are exhibited in the largest pavilion while the other two exhibition pavilions will be devoted to temporary shows.) Daylight bathes three of the four perimeter walls of the galleries, introduced by a continuous clerestory window four and a half feet tall that projects up from the general ceiling level and is oriented inward. Outside, the clerestories are masked by the structural concrete walls and are visible only in aerial view. Unfortunately, artificial light from numerous incandescent spots dominates and masks the natural light, ultimately compromising the architect's attempt to open the galleries to the outdoors.

PHOTOS BY BRAD FEINKNOPF

Roof-top clerestory introduces daylight into the three gallery spaces.

The newly inaugurated Nasher Museum of Art is named in honor of the family of Raymond Nasher, the Dallas real estate developer who graduated from Duke in 1943. He has maintained strong ties to the university and contributed the largest gift towards the new building.

Viñoly came to the United States from Argentina as an experienced professional in 1979 when Post-Modern Classicism dominated architecture in this country both professionally and academically. Viñoly rejected the style, however, and successfully established a practice in New York City doing more straightforward, modernist design. While Post Modernism has waned, Viñoly's architecture remains modern, rational, and uninfluenced by current trends towards iconic imagery.

The Nasher at Duke, Viñoly's first stand-alone art museum, can be considered masterful, especially for its relation to site and its relation to the works of art. If it lacks some of the pizzazz of recent museum architecture – mostly works by a younger generation of architects – perhaps Viñoly, now in his early 60s, sees through current trends just as he saw through the affectations of Post Modernism. For now, it is difficult to decide if his new Nasher is overly conservative or, rather, highly refined. Time will tell.

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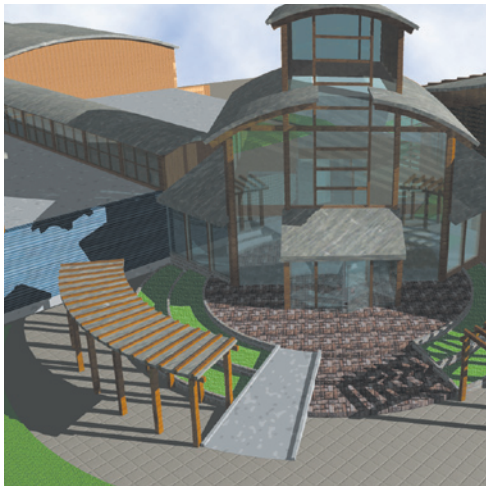

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AIA Dallas Design Awards Announced

DALLAS While the juries opted to forgo bestowing Honor Awards on any of the projects submitted, they instead granted Merit Awards to six built projects at AIA Dallas' 2005 Design Awards celebration held Sept. 10. The jury – Leigh Breslau, AIA, of Skidmore, Owings & Merrill; John Durbrow, AIA, of Blueworks; and Victor Trahan, AIA, of Trahan Architects – awarded a total of 13 built projects from 82 entries.

Merit Awards were presented to DFW Airport SkyLink by Corgan Associates, An Urban Garden by C. Cal Young, Architect, Pump Station by Cunningham Architects, Frontier Texas! by Good Fulton Farrell Architects, McKinney Farm House by Ron Womack, Architect, and Reservoir Residence by Shipley Architects.

The jury also awarded four Citation Awards and three Juror's Commendations to projects in the built category. Citation awards were presented to Tilt Works by Alliance Architects, The Dominican Priory of St. Albert the Great by Brown Reynolds Watford Architects, Nogales Produce by CSD People Architecture, and Firehouse by Gensler. Juror's Commendations went to Parker Adventist Hospital by HKS, Thompson Building by Selzer Architects, and Pizza Porch by Shipley Architects.

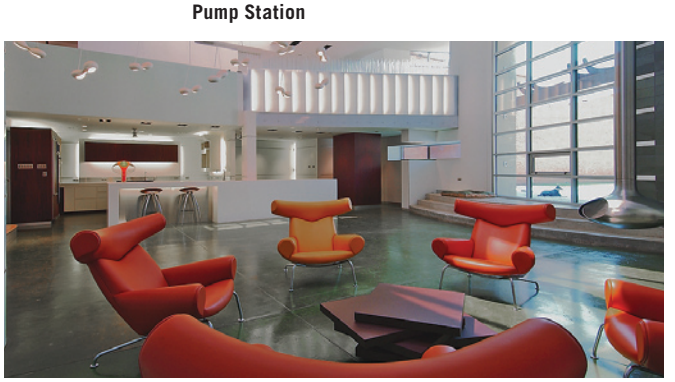
In addition to the merits, citations, and commendations, four unbuilt projects were chosen to receive Design Awards by a separate jury from the University of Texas at Arlington School of Architecture—Donald Gatzke, AIA, Rebecca Boles, AIA, and John Maruszczak.

Three of the four Design Awards went to RTKL Associates for Saturn V, Morelia Chapel, and MICA Student Housing. Wuxi New World Leasing Center by Laguarda Low Architects was also selected as a Design Award recipient.

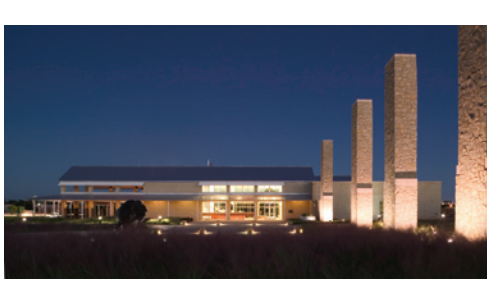
SkyLink

Pump Station

McKinney Farm House



Urban Garden



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Reservoir Residence

RDA Gala Honors Herbert Wells

The Rice Design Alliance's 2005 gala in Houston will recognize interior designer Herbert Wells as the recipient of RDA's Award for Design Excellence. For more than 50 years, Wells has been instrumental in shaping many of Houston's homes. The event will also include dinner, dancing, and a silent auction. For ticket information call (713) 348-5670. NOV. 5

A&M Brings 'Air Quality 2005' to Dallas

The Texas A&M Energy Systems Laboratory will host the Energy Leadership & Emissions Reduction Conference in Dallas to examine renewable energy strategies, air quality improvement, and community leadership. For more information, visit *www.eler.tamu.edu*. NOV. 7–10

Rick Joy Speaks at UT

The UT Austin School of Architecture presents the Charles W. Moore Memorial Lecture featuring Rick Joy as part of the 2005 Lecture Series. The event will be held at the Applied Computational Engineering and Sciences Building. Call (512) 471-1922 or visit *www.arch.utexas.edu*. NOV. 10

DAF Lecture Season Opens

The Dallas Architecture Forum continues its fall lecture and panel series at the Dallas Museum of Art. Upcoming lectures include: Calvin Tsao and Zack McKown, Paul Lewis, Peter Rowe, and James Cutler. For more information, call (214) 764-2406 or visit *www.dallasarchitectureforum.org*. NOV. 8, 17 and DEC. 10, 15

Deadline Set for THC Nominations

The Texas Historical Commission is currently accepting nominations for its historic preservation awards to be presented at the Annual Historic Preservation Conference in April. Call (512) 463-5853 or visit *www.thc.state.tx.us*. DEC. 9

UT Exhibition Examines Texas Architecture

The UT Austin School of Architecture introduces "Texas Architecture: A Visual History," an exhibition documenting Texas' architectural heritage. Visit *www.web.austin.utexas.edu* for more information. Thru JAN. 6

Wright's Price Tower Turns 50

"Prairie Skyscraper: Frank Lloyd Wright's Price Tower" celebrates the fiftieth anniversary of the high–rise in Bartlesville, Okla. The exhibition includes photographs and drawings, as well as furniture that Wright designed for the tower. Call (918) 336-4949 or visit *pricetower.org* for more information. Thru JAN. 15

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Dell Children's Medical Center

Creating an environmentally conscious healing environment for children is the central concept for Seton Healthcare Network's Dell Children's Medical Center of Central Texas. The 169-bed hospital, currently under construction on 32 acres at Austin's former Robert Mueller Municipal Airport and expected to open in 2007, will feature an on-site power-generating plant to sustain the center's energy demands. The design team for the facility includes architecture firm Karlsberger of Columbus, Ohio, and Austin-based landscape firm TBG Partners. The 470,000-sf center, which will serve 46 counties, assimilates the use of post-industrial recycled materials, reflective roofing elements, rainwater harvesting, and organic landscaping. Meditation gardens, fountains, and a three-acre healing garden surround the hospital, and indoor and outdoor courtyards represent the eco-regions of Texas.

Marfa Public Library

Scheduled to open in fall 2007, the Marfa Public Library will be sited on a 27,000-sf tract facing a community park in downtown Marfa. Los Angeles architecture firm Johnston Marklee & Associates aimed to address the communal role of the library beyond book depository by facilitating public interaction through its use as a community center, children's learning library, gallery, and digital exchange. Responding to the local vernacular, the structure's adobe perimeter wall adheres to the proportions inherent in the city grid and is punctuated by a courtyard, merging the library's internalized environment with the surrounding landscape. A performative roof canopy integrates ventilation panels, planted gardens, and skylights, and allows for the incorporation of rainwater collection systems and solar panels. Book stacks and undulating glass walls with embedded photovoltaic cells will enhance the distribution of light and organize the library's open interior.

BTW High School for the Performing and Visual Arts

In the heart of the downtown Dallas Arts District, the new addition to and renovation of the existing Booker T. Washington High School for the Performing and Visual Arts will provide a facility that reflects the unique magnet arts curriculum and fosters cross-disciplinary interaction. Brad Cloepfil of Portland, Ore.-based Allied Works Architecture, the architect behind New York City's Museum of Arts & Design, used a concept that creates loft-like spaces radiating upward and outward on four levels from a central interior courtyard amphitheater. The pinwheel design incorporates the scale of the existing historic building while expanding the size of the school to accommodate flexibility and larger spaces. Expected to open in January 2008, the 195,000-sf facility will include classrooms and studios, a student art gallery, a history museum, and a 400-seat performance hall. Three- and four-story atrium hallways will filter natural light into the structure, and all performance rooms connect to outdoor spaces.

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Green Roofs Over Texas

Ongoing research seeks to adapt technologies for regional systems

by LAUREN WOODWARD

LAUREN WOODWARD

Roofing consultant Brian Gardiner, in white shirt, explains the techniques being used in the demonstration project at the Lady Bird Johnson Wildflower Center in Austin where 25 simulated green roof models are being monitored.

TEXAS may seem an unlikely locale for green roofs. Dry in some regions, humid in others, but often very hot through most of the year, Texas is a challenging terrain for a technology proven in moderately wet and temperate climates such as the Pacific Northwest. Closer consideration, however, yields a more complex and optimistic outlook on this time-honored and versatile building technology.

Green roofs – perhaps more aptly called "planted roofs" to avoid the connotation of a lushly verdant lawn – are also "green" roofs, that is, significant sustainable-design tools for creating high-performance buildings. Gradually, the architectural and construction communities across the U.S., and even owners in the public and private sectors, are becoming familiar with the methods and reasons for building them. Texas, while still at the beginning of its own green roof learning curve, stands to make contributions to the practice as architects, owners, and builders embrace and develop regionally appropriate systems.

Although deep-soil, intensive rooftop landscapes have been done for years, usually on large civic projects, extensive green roofs are typically implied by the term. With soil depths of four to eight inches, extensive green roofs are a streamlined sandwich-layering of roof membrane, drainage material, filter fabric, soil matrix, and plantings—a combination that does not require excessive structure for support (and sometimes no additional structure at all). Some roof manufacturers offer their own component assemblies, botanical consulting expertise, and proprietary soil mixes. There have been efforts in some areas of the country to expand the conventional green roof user base from large commercial and institutional projects reliant on proprietary systems to smaller commercial and residential buildings for which generic assemblies and off-the-shelf components would make green roofs more economically feasible. Regardless of the system size or type, the advantages of green roofs extend beyond the immediate user to benefit the community at large. As additional green space, planted roofs reduce the urban heat island effect through vegetative transpiration, dampen the surging effects of stormwater events, decrease and filter run-off, improve urban air quality by trapping airborne particulates, including heavy metals, and provide habitat for wildlife. Also, as another layer on top of a building, they augment sound and thermal insulation, dramatically increase a roof's longevity by reducing rooftop temperature swings and thermal stress on the membrane, reduce a building's life-cycle cost, modulate ambient temperatures around mechanical equipment, beautify unsightly rooftops, and offer potential outdoor space for additional occupancy. All these features translate directly or indirectly to economic savings and improved quality of life.

So how are green roofs relevant in Texas? What might Texan green roofs look like? In a region known for hot temperatures and extended droughts, an extensive green roof design may differ significantly from one intended for a cooler, episodically rainy climate. Still, we can learn from experience garnered elsewhere that the universal rules of roof construction – water needs to be shed, membranes must remain intact, etc. – hold true regardless of region, and develop local best practices. The success of a site-specific green roof is ultimately contingent on how well the plants do over time, and the design of the whole system works backwards from there. Plant regimes are critical, as is the soil matrix and the ability of a system to retain moisture when it is needed and drain when it's not.

A firm grasp of a region's distinct characteristics and traditional practices is essential. For example, rainwater collection systems developed historically out of necessity and have become a well-established practice in Texas, one that could be drawn upon to direct a portion of harvested rainwater for light irrigation to drought-tolerant roofscapes. The system of aquifers and rivers constitute one of our state's most precious resources, hence the safeguarding of our water systems is an abiding and increasing concern. Planted roofs work toward this goal by functioning as a slowing and filtering device, tempering the flows of heavy rainfalls and allowing more water to permeate into the ground rather than flood parking lots, roadways, and storm conduit systems. As such, they might also be integrated into more complex graywater systems, in which roofs are harnessed as available surface area to filter graywater through plantscapes, at some point along the water-processing cycle. As for plantings, native grasses and flowering species that survive on rocky shelves or in the cracks of hot asphalt paving are perfect candidates for rooftops, and native wildflowers are ideal from the standpoint of showing local color and pride of place. And because the Texas sun is particu-

"Green Roofs" continued on page 59

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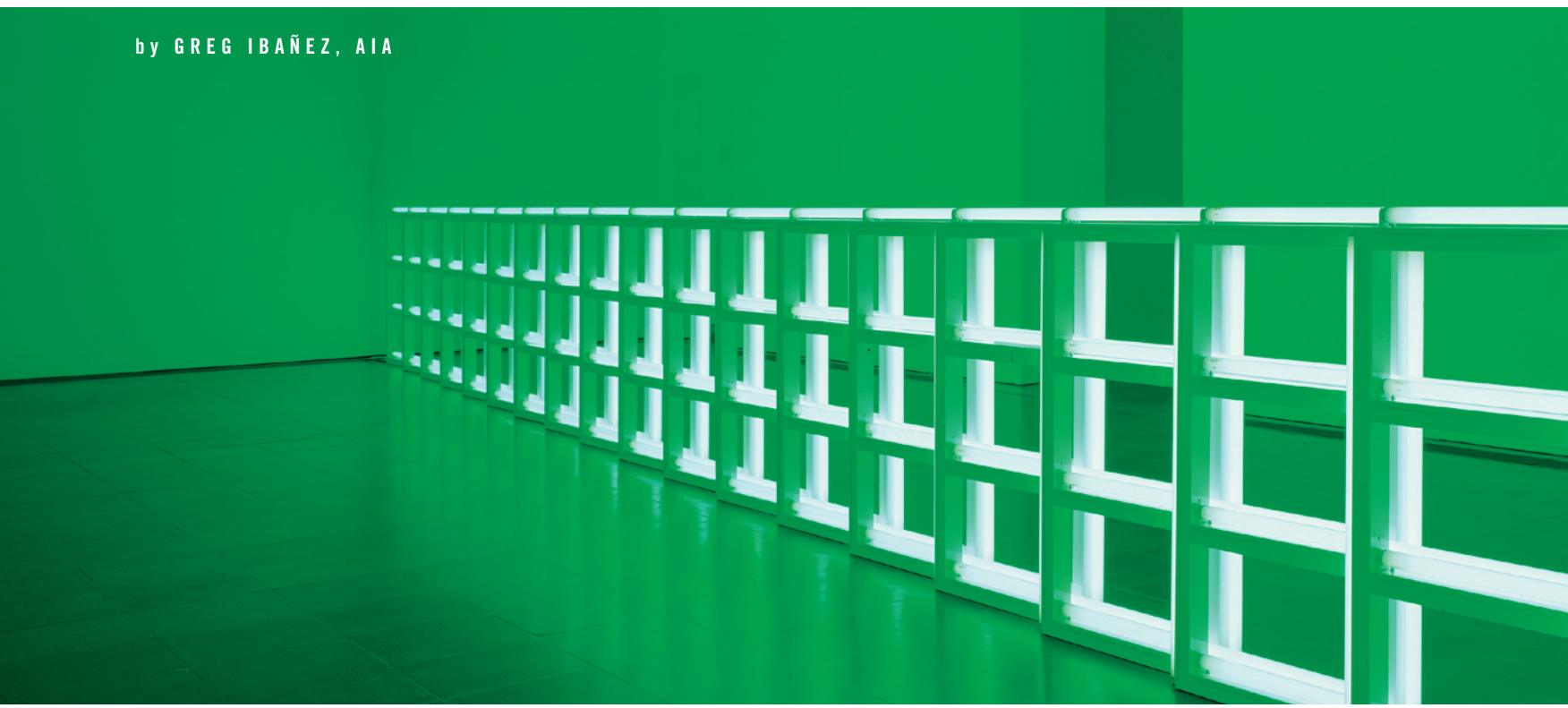
Art Space

Flavin's installations at Fort Worth Modern went beyond mere dialogue with architecture

by GREG IBAÑEZ, AIA



FLORIAN HOLZHERR

WHAT is the appropriate role of architecture in the display of art?

That question has been debated long before the recent boom in museum design. At one extreme are simple, neutral spaces that defer to the art. At the other end are spatially complex galleries that command more attention than the works they house.

The former is exemplified by Yoshio Taniguchi's redesigned Museum of Modern Art in New York, featuring stark, white, flexible spaces. The latter, a trend seen more frequently, is epitomized by Frank Lloyd Wright's Guggenheim, a museum that is charitably described as a "challenge" to artists and curators. Perhaps Zaha Hadid has outdone Wright with her Contemporary Arts Center in Cincinnati where the galleries are cast as supporting players in a thrilling three-dimensional journey through an array of circulation spaces. The ultimate may be Daniel Libeskind's Jewish Museum in Berlin, which was still empty when it opened in 2001 to large crowds, with many visitors expressing the sentiment that the building should remain that way in perpetuity.

To me, there has been no more eloquent response to this important question than the recently concluded exhibit "Dan Flavin: A Retrospective," at the Modern Art Museum of Fort Worth.

My first glimpse of the Flavin exhibit came while driving along the south side of the museum on a rainy evening. I was astonished to see an ethereal green glow emanating from beyond the courtyard

wall of the museum. I made a quick left on Camp Bowie Boulevard and circled around, arriving at the entry. Looking through the darkened lobby the source of the glow was clear—a luminous grid of tubes reflected in the still water of the vast pool, contained only physically within the vitrine of Tadao Ando's central pavilion.

This monumental work, *Untitled (to you, Heiner, with admiration and reflection)*, more than 100 feet long, offered the ideal introduction into a sublime symbiosis of art and architecture. The installation by the Dia Foundation took full advantage of Ando's varied galleries, creating intriguing juxtapositions within.

Flavin's career was displayed chronologically, beginning with early works mounted to walls that might be viewed as glowing paintings. Then came later works that created environments inseparable from the architecture in which they were set. Clearly, his investigations into the use of industrial fluorescent tubes was not an emotionally detached, conceptual gesture, but was instead as lush and sensuous as can be imagined.

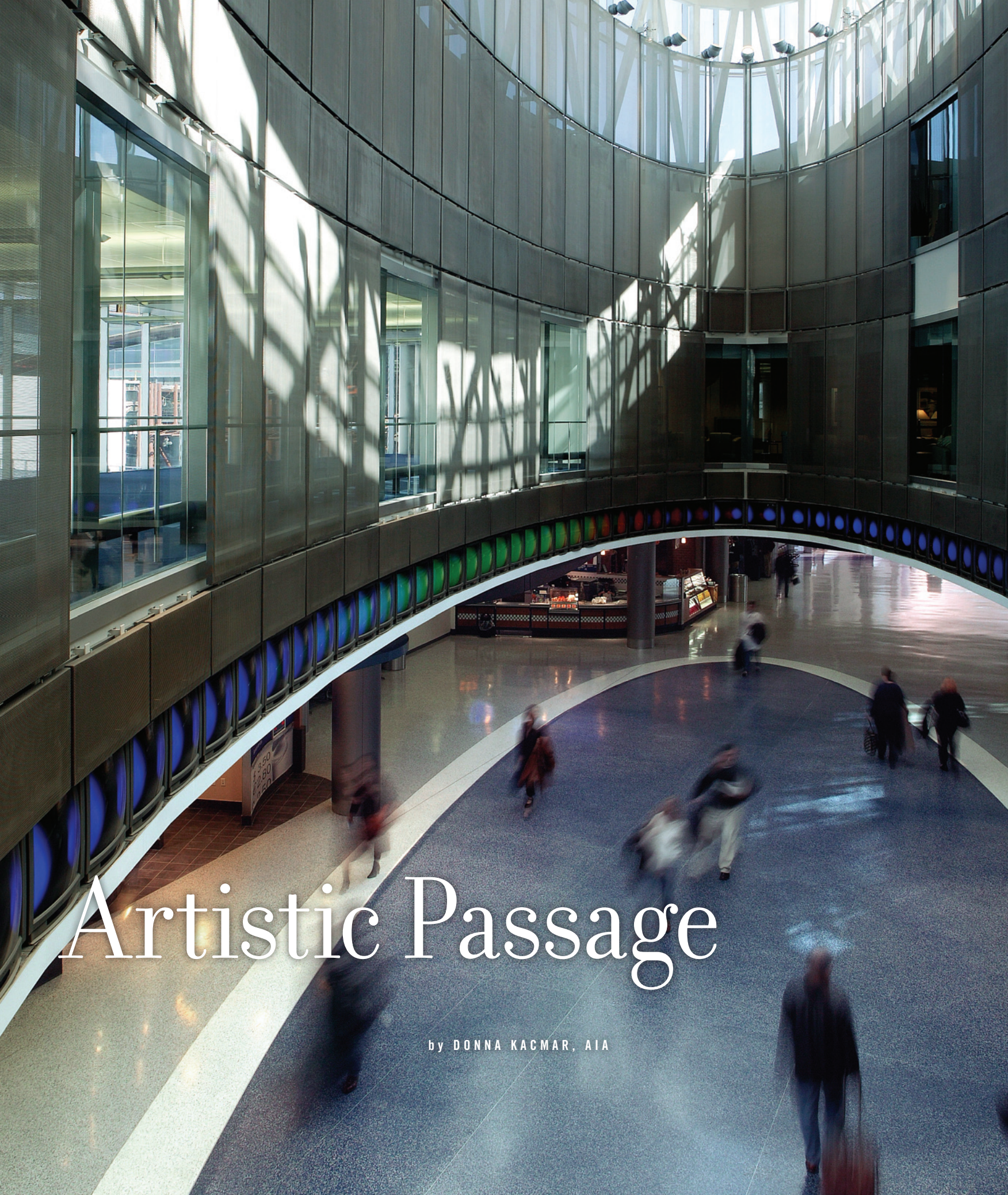
Among the 50 pieces in the show, two especially illustrated the rich interplay between the art and the architecture. The first, a panel of tubes placed in a gallery corner – *Untitled (in honor of Harold Joachim) 3* – challenged perceptions of space and color while creating an impressive kinetic energy in a simple rectilinear space. The right angles of the white walls dissolved in reaction to the blended hues. The second, a later tunnel-like installation, was the most overtly architectural in form. The passage through was an immersion in liquid light, eyes constantly adjusting to the vibrating chromatic mixture. The fluorescent tubes and painted walls melted into the absolute fulfillment of the modern ideal of dematerialization.

The Flavin retrospective convincingly demonstrated that much more than a dialogue is possible between art and architecture. Sometimes, as proved at the Modern, the encounter yields a harmonious duet. T

Greg Ibañez, AIA, is a vice president of Gideon Toal in Fort Worth and the firm's director of design.

"Dan Flavin: A Retrospective" was on display at the Modern Art Museum of Fort Worth between Feb. 25 and June 5. After Fort Worth, one of only four stops on an international tour, the exhibit traveled to the Museum of Contemporary Art, Chicago, before its appearance at the Hayward Gallery in London from Jan. 19 through April 2, 2006.

Works by Dan Flavin exhibited at the Modern Art Museum of Fort Worth included *Untitled (to you, Heiner, with admiration and affection)* from 1973, shown on the opposite page. Photographs by David Woo on this page, clockwise from top left, depict Flavin works during their installation in Fort Worth: detail of the *nominal three (to William of Ockham)* from 1963; *Untitled (to you, Heiner, with admiration and affection)* as seen inside the museum gallery; and *Untitled (to Emily)* from 1973.



Artistic Passage

by DONNA KACMAR, AIA

THE dialogue between art and architecture continues at George Bush Intercontinental Airport in Houston, with the January 2004 completion of the second and final phase of Terminal E. First opened in June 2003 after completion of phase one, the 600,000-square foot terminal integrates artwork that conveys the importance of advanced technology in the airline industry, as well as in the design of the facility.

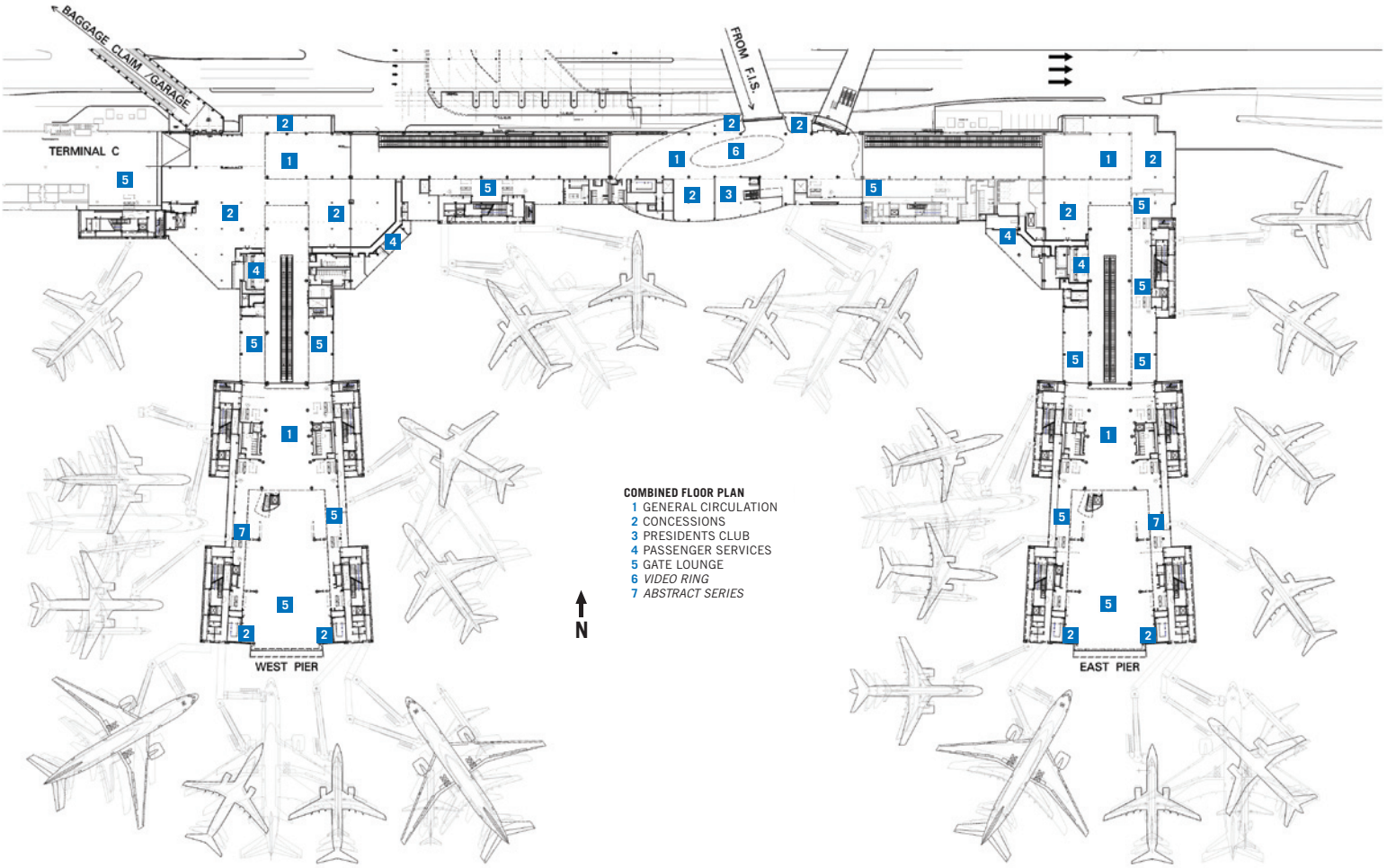
The Houston Airport System, which manages Bush International along with Hobby Airport and Ellington Field, commissioned Corgan Associates of Dallas to design the new terminal to complement the airport complex's existing architectural composition and material palette. Corgan worked with Houston-based Continental Airlines to provide 23 new swing gates for domestic and international destinations along two "piers" connected by a common concourse. The steel-frame building is sheltered by a series of metal-frame curving roofs, each with southern clerestory windows. When arriving from the runway, travelers can't help but notice the swooping saw-tooth roofline that brings in great quantities of natural light. At the southern terminus of each pier, an 80-foot-wide by 30-foot-tall wall of glass offers travelers a visual connection to the outside and expansive views of activities on the runway. The concourse, lit by custom-designed "light bars" that provide both up-light and down-light illumination, provides many retail services and leads to an elliptical-shaped central space through which travelers can access other terminals.

Corgan synthesized Continental's corporate identity into its design by using signature blue lights and accent wall panels of Blue Pearl granite interior wall facing. Continental's branding also shows up in the terrazzo flooring as blue shapes that are mixed in with the mostly white walkways that flow seamlessly into the white interiors of the airport's existing spaces.

The terminal's high-tech design greatly influenced two large works of art installed in the public areas. One work, actually 20 paintings by artist Peter Max that comprise *Abstract Series*, is set along upper-level sections of each pier. While visible from the main floor, the series is best viewed upon

PROJECT Terminal E, George Bush Intercontinental Airport, Houston
CLIENT Continental Airlines
ARCHITECT Corgan Associates
CONTRACTOR ACI/AMEC Joint Venture
INTERIOR PACKAGE Spaw Glass Construction
CONSULTANTS Aviles Engineering (geotechnical); Bennett Design Group (interior); BNP Associates (baggage); Bos Lighting Design (lighting); Carter & Burgess (MEP); The Center for Airport Management (concessions); Jane David Doggett (architectural graphics); MLB & Associates (architectural field representative); Persohn / Hahn Associates (conveying systems); Price Consulting (roof)
PHOTOGRAPHERS Charles Davis Smith, AIA; Paul Hester of Hester + Hardaway (where noted)

(opposite page) The Art Guys' *Video Ring* occupies the concourse's elliptical circulation connector. (above) At the southern terminus of each pier, an 80-foot-wide by 30-foot-tall wall of glass provides a visual link to the outdoors and activities on the runway.



arrival from an international flight as travelers walk through the "sterile corridor" that funnels them into the International Arrivals Building (designed by PGAL architects of Houston and completed earlier this year) for processing by U.S. immigration and customs officers. Max originally painted the individual pieces in his New York City studio on 3 x 1-foot canvases that were later scanned and enlarged on film. Bonded onto 5 X10-foot clear plastic sheets, each painting graphically illustrates the vibrancy of the artist's loaded brush strokes and demonstrates Max's interest in pure color and composition. Commissioned by Continental Airlines, *Abstract Series* is the latest of several works Max has produced for the airline.

A second major work of art is located in the ellipse of the concourse which links the terminal's two piers. *Video Ring* by The Art Guys, local artists Michael Galbreth and Jack Massing (with video designer and engineer Dave Jones), consists of 80 television monitors displaying a 43-minute video loop of images and ambient sounds from around Houston, the artists' studio, and their lives. A three-frame delay between each monitor creates a dynamic visual loop that marches endlessly around the ellipse.

Video Ring is among several artworks commissioned specifically for installation at the airport complex and funded by the City of Houston's Civic Art Program. The process began in the summer of 2001 when Corgan Associates began working with the Cultural Arts Council of Houston and Harris County (CACHH) to develop a short list of artists and locations for art installations at Bush International, with final selections made later by CACHH and Continental Airlines. The artists then produced their works with input from the architects and clients. Other examples of this same process of integrating art and architecture are installed at the adjacent International Arrivals Building, including works by Sheila Klein and Jim Hirschfield, Sonya Ishii, Sandra Fiedork, The Art Guys, Bill FitzGibbons, Ben Woitena, Kate Petley, Bert Samples and Leslie Elkins, AIA, and Rolando Briseño.

Donna Kacmar, AIA, is principal of architectworks inc. in Houston and an assistant professor at the University of Houston's Gerald D. Hines School of Architecture.

PAUL HESTER

RESOURCES METAL DECKING: Epic Roof Deck; **RAILINGS AND HANDRAILS:** Livers Bronze; **METAL ROOF JOISTS:** Safety Steel Service; **WALL PANELS:** Alucobond; **ACCESS DOORS AND PANELS:** Nystrom; **GLAZED CURTAINWALL:** EFCO (Dalton Architectural Systems); **ACOUSTICAL CEILINGS:** Armstrong; **ACOUSTICAL TREATMENTS:** Decoustics; **COLUMN WRAPS AND INTERIOR WALL PANELS:** Environmental Interiors; **CONCRETE MASONRY UNITS:** Southwest Concrete; **MEMBRANE ROOFING:** Firestone; **METAL ROOFING:** BEMO USA; **FASCIA AND SOFFIT PANELS:** Berridge; **PERFORATED METAL CEILINGS:** Gordon; **ALUMINUM WALL PANELS:** Gordon; **TERRAZZO:** National Tile and Terrazzo; **GLASS:** Viracon

(above) Highly visible against the mostly white material palette, blue patterns in the terrazzo flooring signify Continental Airlines' corporate identity. (left) Digitally enlarged paintings by Peter Max from his *Abstract Series* enliven the terminal's airy interiors.

Light Insertion

by STEPHEN SHARPE

PROJECT Lenora & Walter F. Brown Asian Art Wing
CLIENT San Antonio Museum of Art
ARCHITECT Overland Partners Architects
DESIGN TEAM Timothy B. Blonkvist, FAIA; Richard M. Archer, FAIA; Robert L. Shemwell, AIA; Jeff Russell, AIA; Greg Snow
CONTRACTOR Browning Construction Company
CONSULTANTS Goetting & Associates (MEP); Lundy & Franke Engineering (structural); Clifford LaFontaine (exhibits); Bos Lighting (lighting); R.A. Heintges Architects Consultants (curtainwall); Project Control of Texas (project management); Protection Development (security/fire protection); Jack White & Associates (waterproofing)
PHOTOGRAPHER Paul Bardagjy Photography

AGLOW at night like a gigantic Chinese paper lantern, the new Lenora and Walter F. Brown Asian Art Wing inserts a luminous minimalism into the crenelated, century-old former Lone Star Brewery that houses the San Antonio Museum of Art. By day, the addition's grid of translucent glass bestows a welcome serenity to the building's public face still marked by anachronistic post-modern adaptations imposed two decades ago. Local firm Overland Partners has maintained the subtle rhythms of the circa-1900 brewery while deftly introducing a sleek, modern horizontal complement to the venerable, vertical brick structure.

The new 13,000-square-foot Asian Wing comprises two levels set atop a one-story segment of the original brewery complex. An aluminum skin encases the addition's windowless lower level while its upper floor is enveloped by sophisticated glazing systems that, along the southern elevation, resembles a series of rice-paper *shoji* screens. By appropriating such an obvious Japanese metaphor, the architects risked tipping toward caricature. However, their design for the addition's exterior expression handily resolved the challenge of grafting a new project onto a historic building while also cleverly conveying a sense of what lies within.

Inside, priceless collections of Asian artwork are exhibited in galleries arrayed on two levels, similar to the partitioned trays of a Japanese picnic set. Inspired by just that, a lacquered *sagejubako* much like one from the museum's wide-ranging inventory of Asian treasures, the architects have arranged a series of spaces encompassing 13,000 square feet. While the architects visited other museums of Asian art – specifically, the Museum of Oriental Ceramics in Osaka and the Asian Art

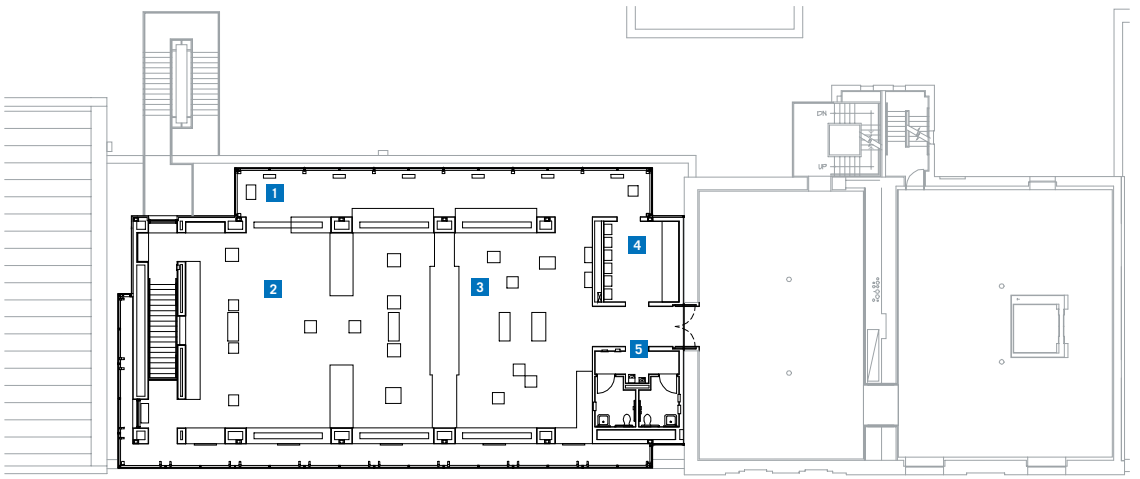
Museum in San Francisco – they turned instead to the artwork for inspiration. "The new museum wing was designed to house a very specific Asian collection. So the design concepts, though clearly related to our time and place and the specific historic context, were largely drawn from the collection itself and from the cultures that created these magnificent works of art," says Overland principal Rick Archer, FAIA. "We studied the specific objects, drawing inspiration from things such as glazes on Chinese porcelains and the lacquered Japanese boxes with their intricate detail and perfectly organized compartments."

A meandering layout in the new addition allows for a sense of discovery, as each turn presents another encased object or grouping on display. Circulation was important, Archer says, in the sense that it would loop through the two-level Asian Art Wing, while also providing visitors with easy access to and from the main museum via galleries and an elevator in its five-story tower. An exterior set of stairs is positioned at the addition's northwest corner, fairly hidden from the museum's main entrance on the south side.

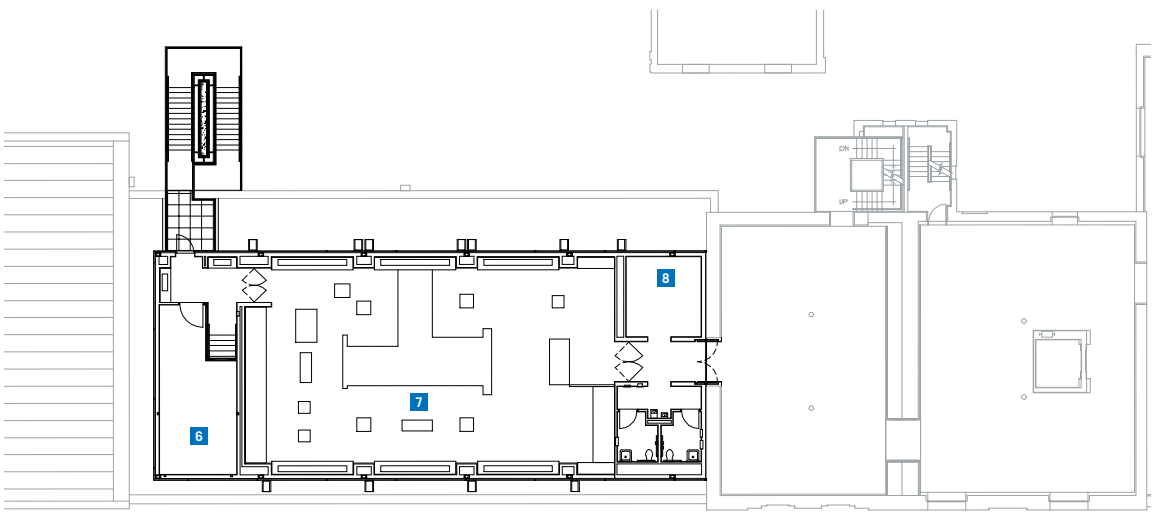
Because the addition's southern and western elevations must bear the brunt of direct solar orientation, the architects devised a special layering of glass to protect the upper-level galleries from overexposure to ultraviolet light. A double-paned wall of fritted glass diffuses sunlight yet emits enough natural light for viewing exhibits on most days without artificial lighting. At the extreme western end, additional daylight is brought into the upper level through a roof-top light monitor. It's along the southern and western elevations that the rice-paper screen effect is employed, with off-

(opposite page) A sophisticated glazing system along the upper level of the addition's western and southern elevations shields the collections from direct sunlight. (above) A roof-top light monitor, located at the extreme western end of the upper level, augments the illumination of exhibits with indirect daylight.

The architects inserted the two-level addition above existing structure. While opaque metal panels shield the second-floor galleries from direct sunlight, glazing systems on the third floor allow indirect daylight. Fluorescent lighting affixed to the steel grid creates the nighttime lantern-like glow.



THIRD FLOOR PLAN
1 CHINESE CERAMICS WALKWAY
2 MING & QING CERAMICS
3 LIAO CERAMICS GALLERY
4 SONG CERAMICS GALLERY
5 RESTROOMS



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SECOND FLOOR PLAN
6 ASIAN ART STORAGE
7 JAPANESE GALLERY
8 CHANGING GALLERY

the-shelf fluorescent light fixtures installed behind horizontal sections of the steel grid. A narrow service corridor runs between the glass wall and the inward-facing display cases. The architects collaborated with exhibit designers to customize the cases that distribute sunlight to each of the objects displayed. Clear glass along the upper-level's north side invites visitors to take a break from viewing exhibits.

In contrast to the complexities of the lighting design for the upper level, the strategy employed in the lower story is simple—envelop the entire level completely with opaque metal panels. According to Martha Blackwelder, the museum's curator of Asian art, the delicate works exhibited in the Japanese Gallery cannot be exposed to daylight. Instead, she says, those articles must be displayed in a space where low levels of artificial light can be controlled. In addition to protecting the artwork, Blackwelder says, the dim lighting creates a more intimate space, which also reflects a Japanese sensibility in the viewing of art. Overland's architects worked closely with Blackwelder and the Asian Wing's benefactors to specify lighting design for each application. "We tried to understand what type of place would be appropriate for each part of the collection, both in terms of cultural context and physical environment," Archer says. "Light was a major concern throughout the collection. What kind of light, how much light, where is the light coming from? This led to the idea of the building as a 'light harvester' where objects are viewed under optimal natural and artificial light."

The new Asian Wing represents the latest collaboration between SAMA and Overland Partners, the firm chosen in the mid-1990s to master-plan the museum complex. Overland also designed the Nelson A. Rockefeller Center for Latin American Art, a new structure completed in 1998 that anchors the east end of the complex. According to the master plan, future adaptations will re-orient the entire museum 180 degrees to take advantage of its frontage along the San Antonio River.

Stephen Sharpe is editor of *Texas Architect*.

RESOURCES **CONCRETE MATERIALS:** Alamo Concrete Products; **CEMENTITIOUS DECKS:** Drury South; **UNIT MASONRY WALL ASSEMBLIES:** Acme Brick; **RAILINGS AND HANDRAILS:** Julius Blum & Company; **STRUCTURAL STEEL:** Jackson Steel Co.; **METAL DECKING AND METAL STAIRS:** Jackson Steel Co.; **CARPENTRY:** Browning Construction Company; **ROOF AND WALL PANELS:** Morin Corporation; **MEMBRANE ROOFING:** Siplast; **INTUMESCENT PAINT:** A/D Fire Protection Systems; **BITUMINOUS DAMPPROOFING:** Sonneborn; **TRAFFIC COATINGS:** Sonneborn; **ACCESS DOORS AND PANELS:** Vistawall Architectural Products; **ENTRANCES AND STOREFRONTS:** Vistawall Architectural Products; **GLAZED CURTAINWALL:** Kawneer; **GYPSUM BOARD FRAMING AND ACCESSORIES:** G–P Gypsum Corporation; **TILE:** Daltile; **STONE PAVING AND FLOORING:** Delta Granite & Marble; **BLINDS, SHUTTERS, AND SHADES:** Vimco Lutron Electronics

Serene Reflection

by KATIE NEWMAN, AIA

PROJECT The Dominican Priory of St. Albert the Great
CLIENT University of Dallas
ARCHITECT Brown Reynolds Watford Architects
DESIGN TEAM Craig S. Reynolds, AIA; Gary Devries, AIA; Steve Danielson; Sean Garman; Masako Fujinami; Norio Tsuchiya
CONTRACTOR Andres Construction
CONSULTANTS Halff Associates (civil); Jaster–Quintanilla Dallas (structural); Basharkhah Engineering (MEP)
PHOTOGRAPHER Mark K. Olsen; BRW Architects

TO understand the new Dominican Priory of St. Albert the Great requires a bit of background about the University of Dallas, a Catholic school in Irving on whose campus the Dominican's former residence/worship facility was sited. When university officials decided to expand its campus in 2000, they determined that the natural choice was northward along an adjacent ridgeline. Situated squarely in that path was the Dominican Priory, a building that offered little natural light but nonetheless was home to a dozen friars and their prior.

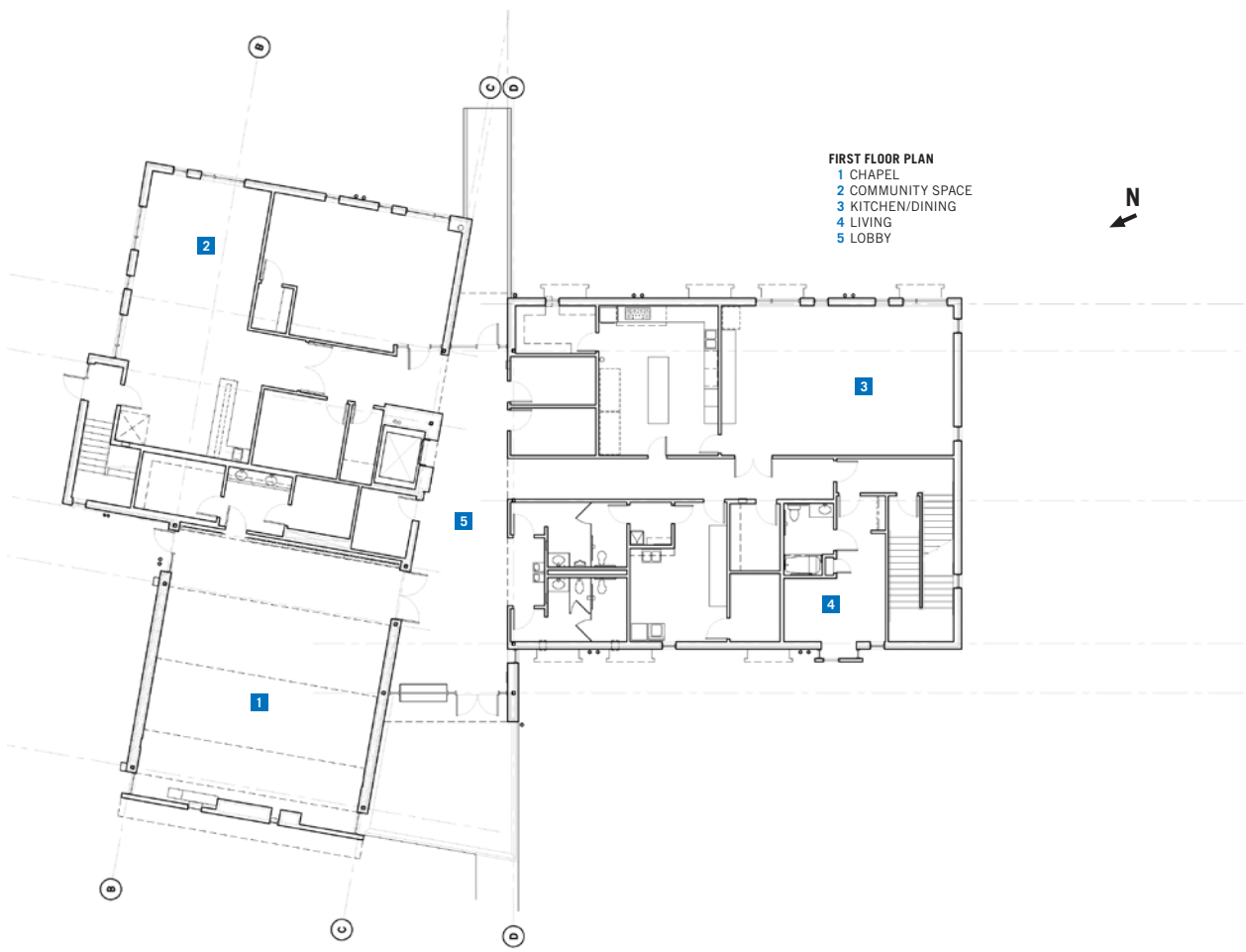
A land deal was struck, and in exchange for ceding the land to expand the campus, the university agreed to build a new facility for the Dominicans on a nearby site. Brown Reynolds Watford Architects was selected to design the replacement priory. The Dallas firm had designed the master plan for the campus that was dominated by the work of O'Neil Ford from the late 1960s. In addition, Craig Reynolds, AIA, the firm's principal-in-charge, had designed several buildings on campus and was quite familiar with the style and materials used. The design team, drawing from that knowledge, then set out to compose a new Priory that reflected the older architecture on campus.

How does one design for individuals such as the Dominicans who devote their lives to serving others? Also, how does one design for 13 people who live under one roof? The resulting Priory arose from a collaboration between the friars, the university officials, and the design team. In that process the architects learned much about the inner workings of the Dominicans, whose daily routines and age-old traditions would require skilled hands for the overlaying of modernity.

Programmatically, it was a complicated problem. The ground level would comprise the public spaces, including a chapel, three reconciliation rooms, a research library, dining and kitchen facilities, and a guest room. The upper level would house the 12 friars and their prior in individual rooms. The Dominicans being a democratic group, the friars' rooms needed to be close to the same size, while

(opposite page) The chapel's canted altar wall punched with irregularly shaped windows captures the attention of passersby. (this page) Sunlight filtered through colored glass and reflected off interior surfaces animates the chapel space.

SECOND FLOOR PLAN
1 BEDROOMS
2 SITTING AREA



FIRST FLOOR PLAN
1 CHAPEL
2 COMMUNITY SPACE
3 KITCHEN/DINING
4 LIVING
5 LOBBY

The use of copper and brick reflects older campus buildings while the stone picks up on material employed for walls built throughout the site.

the prior's room was to be slightly larger. Additionally, the architects shifted the roof planes to add a northwest clerestory that pours light into the upstairs hallway. The geometry of the building's design allowed for a central sitting room upstairs with a western view out toward a meadow. To accommodate the friars' wish to be near the campus yet remain apart, the architects angled the building away from the campus but connected them by means of a meandering path that allows students to walk in quiet contemplation on their way to and from the chapel.

While program was partially responsible for its form, the building's material palette – specifically copper and brick – derived directly from the existing campus. The copper window boxes in particular echo Ford's science building, which like his other campus structures now sports a dramatically darker patina after almost four decades of weathering. However, the Priory's stone is new to the palette, but an addition influenced by the stone walls on the site. BRW chose to use retaining walls and a structural foundation for the new Priory in order to lift the building above the campus' unforgiving elastic soil.

The jewel of the project is the chapel, both in terms of program and aesthetics. Formally, it is a simple box with a ceiling stepped vertically towards the altar wall, which is very neatly punctured with irregularly shaped light coves. Early on, the friars had expressed a desire to adorn the chapel with stained glass. However, budget constraints required a more economical solution, so the architects instead used colored glass and strategically positioned the openings to optimize reflected light. This angled, dramatically lit altar wall focuses attention, both from inside and out, on the chapel.

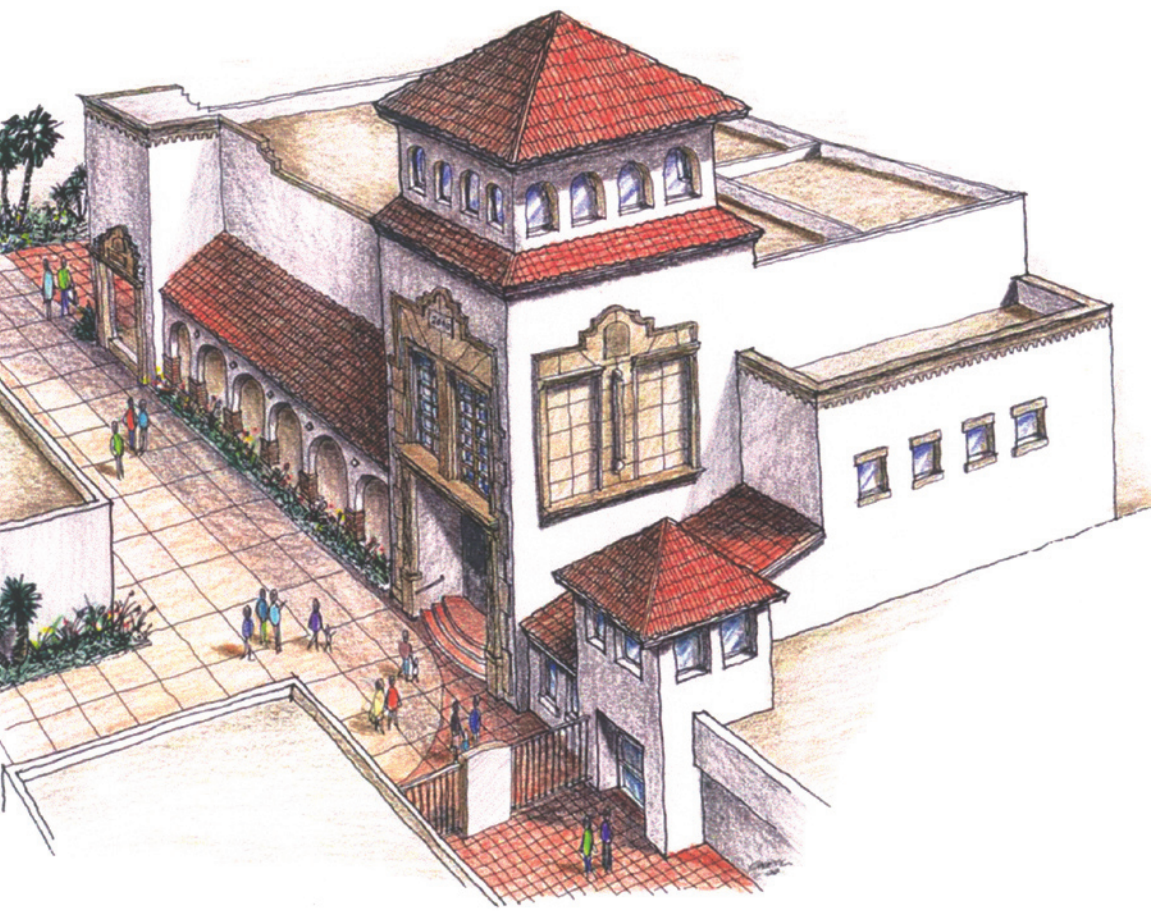
To listen to the architects discuss the project after its completion is to hear them voice their respect for the Dominicans and their work. They say BRW enjoyed a rare opportunity to design a project that responded to the needs of its occupants while also expanding their own horizons. To visit the friars' new home is to step into a quiet place where even the nearby freeway's incessant din seems appropriately calming for inward contemplation.

Katie Newman, AIA, is a project manager for Beck in Dallas.

RESOURCES UNIT PAVERS: Pavestone; **RETAINING WALLS:** Anchor Diamond Pro, Pavestone; **CONCRETE MATERIALS:** TXI; **MASONRY UNITS:** Acme Brick; **CAST STONE:** Americast; **SIMULATED/MANUFACTURED STONE:** Coronado Stone Products; **UNIT MASONRY WALL ASSEMBLIES:** Featherlite; **ARCHITECTURAL WOODWORK:** Thomas Cabinetry; **LAMINATES:** Wilsonart; **SOLID POLYMER FABRICATIONS:** Corian; **WATERPROOFING AND DAMPPROOFING:** Dow Corning, Sonneborn, Grace Polyguard; **SHINGLES:** Tamko; **ROOF AND WALL PANELS:** Berridge Manufacturing; **SIDING:** James Hardie; **MEMBRANE ROOFING:** Johns Manville; **FASCIA AND SOFFIT PANELS:** James Hardie, Coppercraft; **COPPER WALL PANELS:** Coppercraft; **PREASSEMBLED METAL DOORS AND FRAMES:** Rediframe; **WOOD AND PLASTIC DOORS AND FRAMES:** Dimension Millworks; **ENTRANCES AND STOREFRONTS:** Peerless Products, Kawneer; **GLASS:** PPG Commercial; **TILE:** Knoxtile, Daltile; **ACOUSTICAL CEILINGS:** Armstrong Chicago Metallic; **VCT:** Mannington, Armstrong; **STEEL TRUSS FLOOR AND WALL FRAMING:** Nuconsteel

Showcase for History

by LAWRENCE CONNOLLY, AIA



LOOSELY patterned after the adjacent Old Hidalgo County Jail, the new Museum of South Texas History is prominently located catercorner to the courthouse square in downtown Edinburg. The architects for the new structure borrowed elements from the design of the 1911 jail building (by John Phelps, a partner of Atlee Ayers), particularly noticeable in its massing and its three-story, hip-roof tower. The new 23,000-square-foot, $2.4 million facility represents the latest expansion for the museum, originally established in 1967 as the Hidalgo County Historical Museum.

The new building's signature tower, located above its west-facing entrance, is an enlarged derivative of the old jail's tower (erected for public hangings but used only once, in 1913). Rising 70 feet above street level, the new tower serves as an effective way-finding device in Edinburg's low-rise downtown. The building's Spanish Colonial Revival style also reflects the design of the historic jail, although the scale of the new facility dwarfs the jail and the other older components of the museum complex. Further linking the design of the new building with the jail are its stucco walls, barrel tile roofing, a caliche entry surround, decorative quatrefoils, an entry colonnade, and custom metalwork by San Antonio artisan George Parker.

Built as the first phase of a master plan developed with the expertise of Boultinghouse Simpson, the new facility was conceived by the local architectural firm with direction from the museum staff and a building committee. Executive Director Shan Rankin credits the architects with producing an effective design despite their working as part of a group. "It is amazing to think that this was all designed by committee," Rankin says, adding, "and it doesn't look like an elephant."

PROJECT Museum of South Texas History
CLIENT Museum of South Texas History
ARCHITECT Boultinghouse Simpson Architects
DESIGN TEAM Robert Simpson, AIA; John Gates, Assoc. AIA; J.R. Guerra; George Quintanilla
CONTRACTOR D. Wilson Construction
CONSULTANTS Don Dragutsky (structural); CRC Engineering (MEP); Melden & Hunt (civil); André Knowlton (exhibit designer); George Parker (metalwork)
PHOTOGRAPHERS Robert Simpson, AIA; John Gates, Assoc. AIA

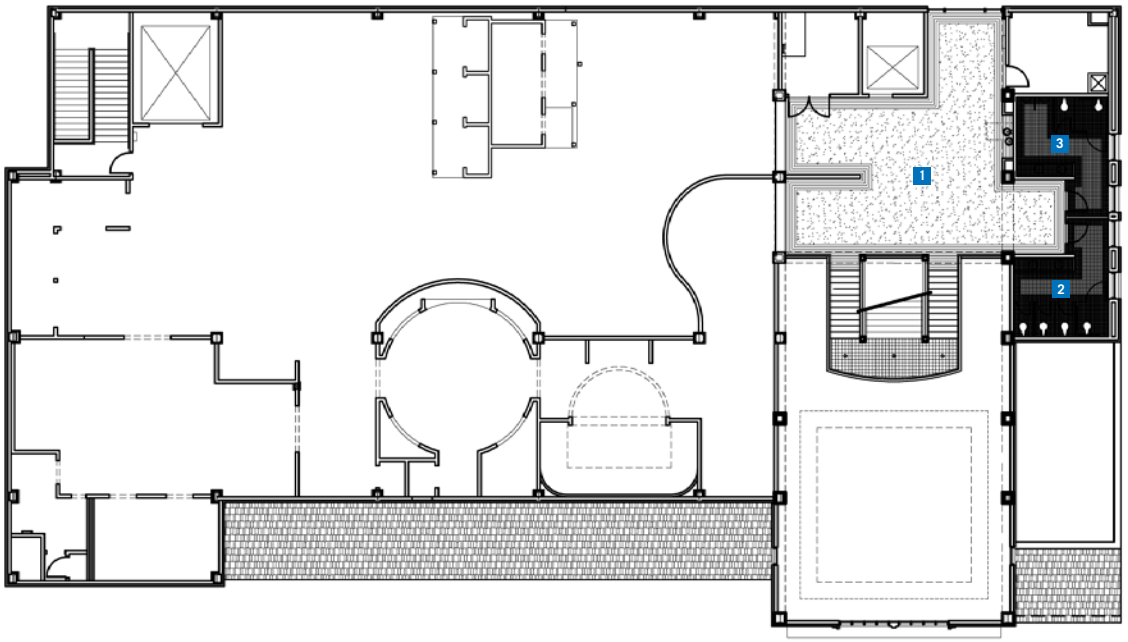
Local stone and custom metalwork at the ceremonial entrance accentuate the Spanish Colonial Revival style of the adjacent Old Hidalgo County Jail.

RESOURCES UNIT PAVERS: Valley Block & Brick; **POROUS PAVING:** Cris Equipment; **FENCES, GATES, AND HARDWARE:** AAA Crane; **CONCRETE MATERIALS:** Concrete Ready–Mix; **STONE:** South Texas Masonry; **METAL MATERIALS:** Southern Steel Fabricators; **METAL DECKING:** Southern Steel Fabricators; **ARCHITECTURAL METAL WORK:** George Parker; **RAILINGS AND HANDRAILS:** Southern Steel Fabricators; **ARCHITECTURAL WOODWORK:** Brownsville Architectural Millwork; **LAMINATES:** Wilsonart; **EXTERIOR INSULATION AND FINISH SYSTEMS:** Dryvit; **VAPOR RETARDERS:** Tyvek; **ROOF AND WALL PANELS:** MCA Clay Tiles; **CUSTOM MADE DOORS:** Dimension Millworks; **MESQUITE WOOD DOORS:** Brownsville Architectural Millwork; **TILE:** Daltile; **WOOD CEILINGS:** Richardson Construction; **WOOD FLOORING:** South Texas Molding; **EXTERIOR WALL TILE:** Cardenas Masonry

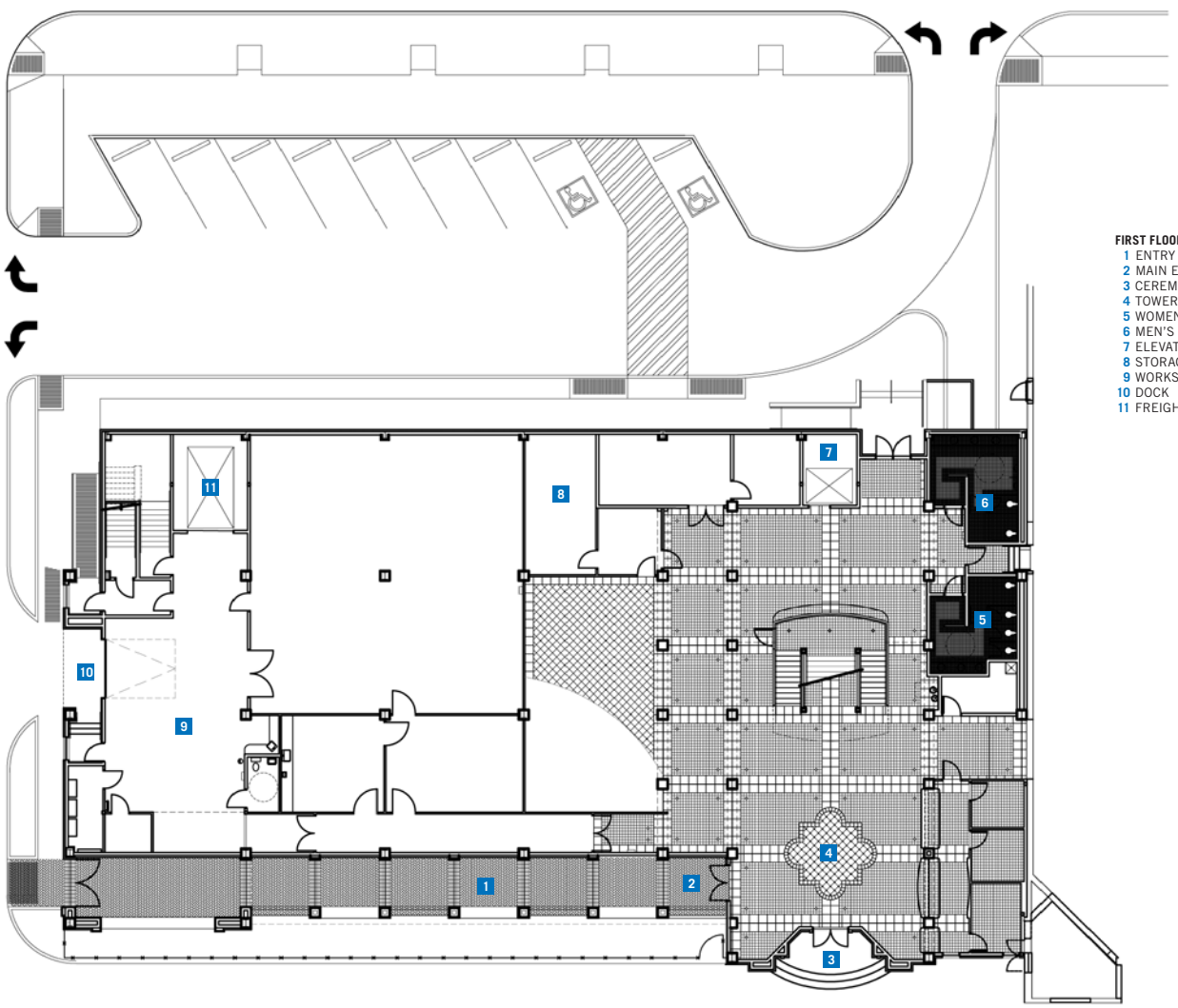
The museum has its primary exhibit space on the second floor and most of its support spaces on the ground floor. The two-story entry lobby, with its custom, four-inch-thick mesquite doors, monumental staircase, and vaulted tower ceiling with pine planking, was programmed as a multi-purpose space to serve as staging for annual events such as Dia de los Muertos and Pioneer and Ranching Crafts Days. The light-filled lobby and its contiguous meeting room venue have become so popular that museum officials now make the spaces available for events ranging from weddings and parties to commercial and government-sponsored seminars. The museum is able to rent these public places after hours, without any security risk to their collection, because the exhibit, storage, and administration areas can be closed off to allow the lobby and meeting room to operate independently.

Even with its substantial recent addition, the museum complex remains a work in progress. Earlier this year, the museum acquired the vacant retail building on the northwest corner of their block that, once razed, will allow the west elevation of the new addition and its arched colonnade to be appreciated as it was conceived—as a charming loggia to be seen from South Closner Boulevard, dramatically increasing the museum's western visibility. According to Rankin, this latest acquisition illustrates how museum officials are following a longstanding local tradition. "You could probably say we are like any South Texas rancher," she jokes. "We're only interested in the property that's next to us."

A *TA* contributing editor, Lawrence Connolly, AIA, is president of Connolly Architects in Austin.



SECOND FLOOR PLAN
1 SECOND FLOOR LOBBY
2 WOMEN'S RESTROOM
3 MEN'S RESTROOM



FIRST FLOOR PLAN
1 ENTRY ARCADE
2 MAIN ENTRANCE
3 CEREMONIAL ENTRANCE
4 TOWER LOBBY
5 WOMEN'S RESTROOM
6 MEN'S RESTROOM
7 ELEVATOR
8 STORAGE
9 WORKSHOP
10 DOCK
11 FREIGHT ELEVATOR

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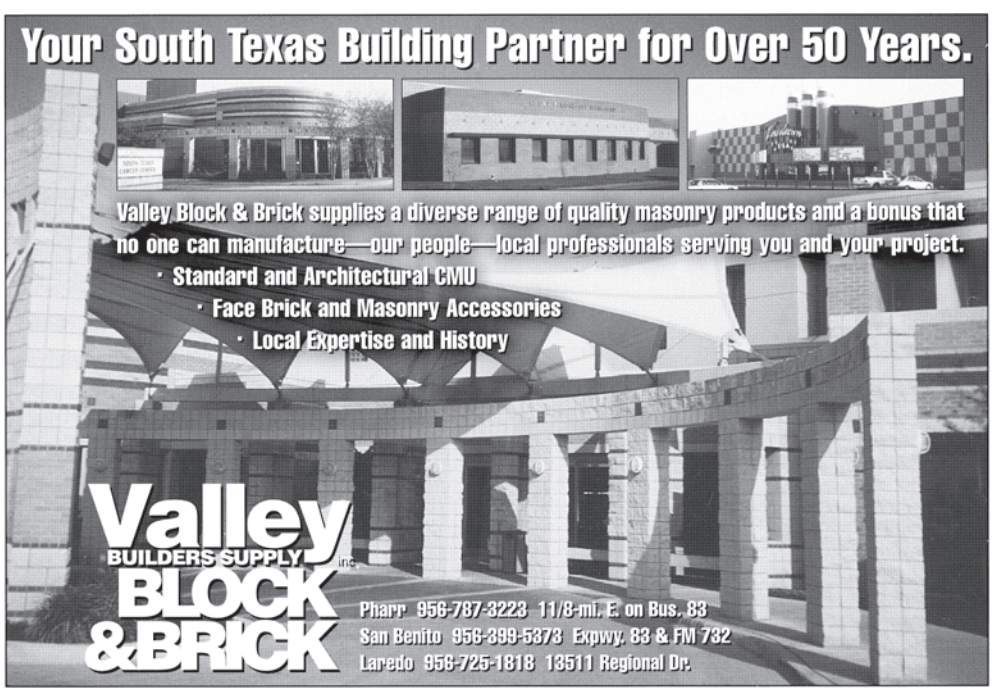


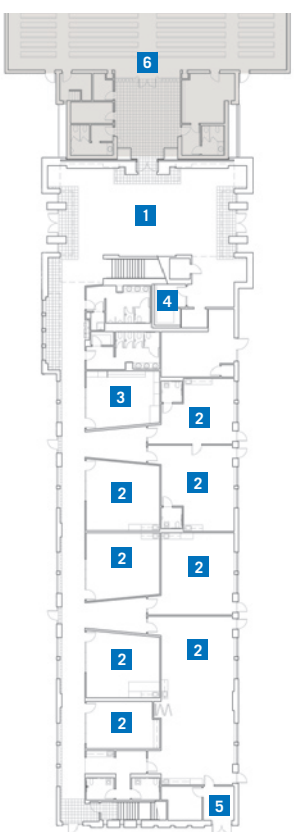
Emerson Unitarian Church Education Building

PROJECT Emerson Unitarian Church Education Building, Houston
CLIENT Emerson Unitarian Church
ARCHITECT Bailey Architects
CONTRACTOR Fretz Construction Company
CONSULTANTS Kuo & Associates (civil); SEi Companies (MEP); Ingenium (structural)
PHOTOGRAPHER Gerald Moorhead, FAIA

The Emerson Unitarian Education Building represents the first project constructed by a church in the U.S. to be certified by the U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) rating system. The building was designed to deliver long–term savings in operating costs and maintenance while meeting the development goals of the congregation. Bailey Architects designed the $3 million project to replace an older education facility and to provide a central point of arrival for parishioners. The building houses classrooms and staff offices, and features a two–story lobby that connects the facility to the existing sanctuary, uniting the campus and providing a gathering space that improves the church's sense of community. Completed in June 2004, the structure enhances the existing campus's mature landscape, architecture, and spirit, while reflecting a strong environmental ethic. The addition was constructed using environmentally sensitive building materials, operations and maintenance procedures, and construction processes. Reflective roof and paving materials counter the urban heat island effect to reduce smog, while shielded site lighting minimizes light pollution. The addition's compact footprint and reduced paving allow for three percent more green space on the campus, and native landscaping reduces irrigation needs. The integration of sustainable strategies resulted in a 22,265-sf addition that is 30 percent more efficient than the standard building, saving Emerson an estimated $12,000 annually in operating costs.

ASHLEY ST.CLAIR

RESOURCES EARTHWORK: Burts Construction; **FENCING:** Foster Fence; **MASONRY:** Lowery Masonry; **MISCELLANEOUS METAL:** Fretz Construction; **STRUCTURAL STEEL:** Alpha Fabricators; **STEEL ERECTION:** Postel Smith; **MILLWORK AND CASEWORK:** Fretz Construction; **WATERPROOF AND CAULKING:** Butch's Waterproofing; **ROOFING AND SHEET METAL:** Peak Roofing; **THERMAL INSULATION:** Ryder Insulation; **METAL CANOPIES:** Avadek; **PLASTIC LAMINATE DOORS:** Raco Altura; **GLASS AND GLAZING:** Dynamic; **DRYWALL:** Marek Brothers; **TILE:** Gulf Coast Tile; **ACOUSTICAL CEILING:** Marek Brothers; **FLOORING:** Excel Carpets; **PAINT AND WALL COVERING:** Marek Brothers; **TOILET PARTITIONS AND ACCESSORIES:** J.M. Maly; **MISCELLANIOUS SPECIALTIES:** J.M. Maly; **FIRE PROTECTION SYSTEM:** HG Fire



GROUND FLOOR PLAN
1 LOBBY
2 CLASSROOM
3 OFFICE
4 BOOKSTORE
5 RECYCLING
6 EXISTING SANCTUARY

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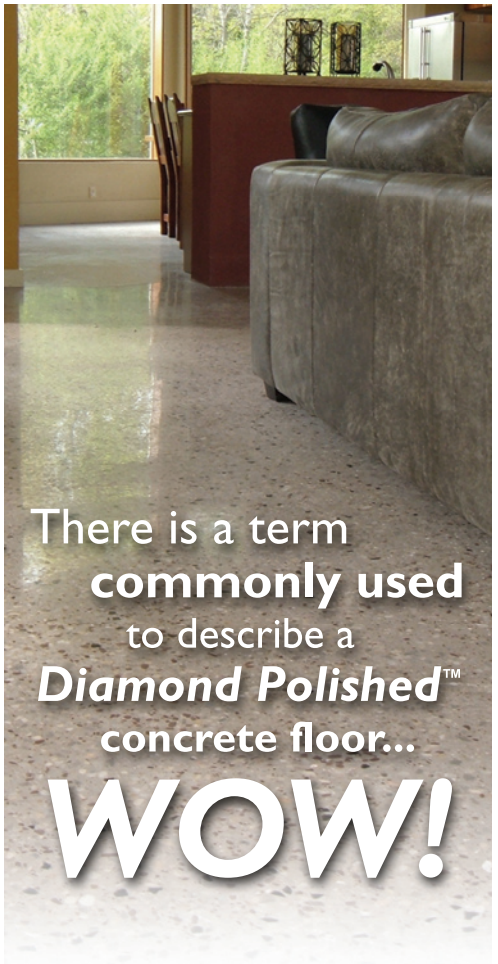

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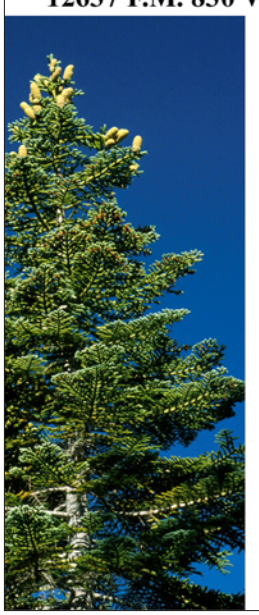

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Far Southeast EMS Station #28

PROJECT Far Southeast EMS Station #28, Austin
CLIENT City of Austin
ARCHITECT Architecture + Plus, Betty Trent, AIA
CONTRACTOR The Barr Company, AIA
CONSULTANTS Center for Maximum Potential Building Systems (LEED); Tom Green & Co. Engineers (MEP); Raymond Chan & Associates (civil); Steinman Luevano Structures, LLP (structural); Winterowd Associates (landscape); Laurie Smith Design Associates (interiors); Goodwin Engineering (city commissioning)
PHOTOGRAPHER Peter Tata

Completed in April 2004, the Far Southeast EMS Station #28 is the first project in Texas to receive a LEED gold rating from the U.S. Green Building Council. Designed by Austin–based Architecture + Plus, the 4,934–sf facility integrates local materials with highly efficient building techniques while meeting the programmatic requirements for 24/7 emergency response. Designed with deliberate orientation and shading for heat reduction, the project also includes high–tech glass as part of a strategy that reduces HVAC energy use by more than 50 percent. Heat island mitigation is achieved through the use of concrete paving and metal roofing panels with reflective coating. A high–performance exhaust system in the bay area improves air quality by expelling vehicle exhaust fumes from the building, and windows and skylights in each room maximize natural lighting. The $1.5 million station uses water conserving fixtures and a rainwater collection system that irrigates the site's xeriscaping.

ASHLEY ST.CLAIR

RESOURCES **POROUS PAVING:** Capitol Aggregate; **FENCES, GATES, AND HARDWARE:** HY-Security; **WATER COLLECTION TANKS:** Water Tanks; **CONCRETE INSULATED FORMS:** Gridwall; **TERMITE PROTECTION:** Termimesh; **CAST STONE:** J & J Stone; **TRUSSES:** Alpine TrusSteel; **STEEL:** Construction Metal Products; **BAMBOO CABINETS:** Warenoff's; **METAL ROOFING:** Architectural Bldg. Components; **METAL FRAMES:** Dean Steel; **WOOD DOORS:** Algoma; **METAL WINDOWS:** Columbia Commercial Bldg. Products; **UNIT SKYLIGHTS:** Solatube; **GLASS:** PPG–'Azurlite'; **GYPSUM BOARD FRAMING AND ACCESSORIES:** USG Building Products; **GYPSUM FABRICATIONS:** Clark Steel Framing; **TILE:** Lonestar Ceramic; **ACOUSTICAL CEILINGS:** USG; **WALL COVERINGS:** Shaw Carpet 'Metro'; **STAINED CONCRETE FLOORS:** L.M. Scofield; **ELECTRICAL FIXTURES:** Lithonia Lighting

GROUND FLOOR PLAN
1 ENTRY
2 DAY ROOM
3 KITCHEN
4 BEDROOM
5 TOILET
6 SHOWER
7 LAUNDRY
8 BOAT STORAGE
9 CISTERN

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Floor Covering from Foundation to Cover

Advances in the flooring industry bring new challenges to design professionals

by CLAUDIA LEZELL

PHOTO ILLUSTRATION COURTESY TARKETT

Resilient tile (formerly called linoleum) offers a cost-effective, durable flooring that can be easily and economically maintained.

AFTER more than 20 years of involvement in the design, build, concrete, floor covering, and inspection industry, and now as a technical trainer, I am impressed with how these industries have evolved in a relatively short period of time. As industry professionals, we owe it to our clients and consumers to stop for a moment to review the evolutionary process, evaluate how these changes have affected the flooring industry, and identify the new challenges that we face going forward.

High productivity in construction and building has had a positive effect on our economy. However, there are negatives associated with this boom,including shortages in concrete and building supplies, construction specifications too broadly written and left open to interpretation, and job delays. In addition, we have seen an increasing trend toward poor workmanship, such as installation shortcuts taken in order to quickly complete a project.

These construction problems are compounded by the fluctuating weather patterns seen in recent years. Unpredictable weather can cause challenges due to extreme temperature swings, excessive flooding, and job delays. Mother Nature's fickleness can result in product failure, moisture intrusion, indoor air quality concerns, such as mold, and the potential for poor workmanship. Fortunately, along with these demands have come some solutions.

Evolution in materials and installation

As the environment has demanded more of the building industry, we have seen advancements in several areas. Concrete technology has grown over the years to include an increased selection of admixtures, such as pozzolans, accelerators, retarders, and high-range water reducers commonly called super plastizers. These chemicals

Tips for Hardwood Flooring

While hardwoods offer durability, affordability, and ease of maintenance, they are natural materials that will expand and contract with extreme changes in relative humidity. These tips will help to ensure that the proper steps are taken before and during installation.

Preparation:

- Close all outside windows and doors before hard wood flooring is delivered.
- Seal doorways with plastic film and mask any surfaces you wish to protect.
- Never truck, unload, or store unprotected hardwood in wet conditions.
- Maintain temperature and relative humidity at occupancy levels for at least five days prior to installation.
- Always have your hardwood measured for moisture content to be sure it matches that recommended for your part of the country.
- Divide hardwood into small lots and store for at least one week in the room in which it will be installed.
- To avoid shrinking, swelling, and damage, precoat surfaces that cannot be reached after installation.
- Seal all ends that abut a surface exposed to moisture such as an exterior doorway or ceramic tile floor.

Installation:

- Moisture passes primarily through end grain, so seal ends of wood that has been cut or mitered with a transparent sealer.
- Never install flooring over damp concrete or plywood; dry wood will pick up moisture from the subfloor.
- Leave a 3/4 inch gap at the wall line for expansion when laying a solid hardwood floor; baseboards will cover the joint.
- Hardwood flooring should be sanded at least three times, with successively finer grades of paper.
- When sanding over stain and finish coats, wipe the floor clean with a dampened lint–free cloth.

Source: Hardwood Information Center at *www.hardwoodinfo.com*

COURTESY LOEWEN

Hardwood flooring is a popular choice for residential and commercial building types. The residential project illustrated above uses mahogany hardwood, which is ideal for domestic applications because of its hardness and color fastness.

can alter the time it takes for the concrete to set by shortening and lengthening that time depending on the need. We can also make more durable concrete and reduce the amount of water required to hydrate the mixture.

Concrete technology has been moving rapidly forward, and the technology of floor covering has made similar advancements. With resilient products, less permeability has led to improved cut and surface quality, edge tile formats with a broader selection of sizes and shapes, more durable floor finish and sealer formulations, and dry buff technology.

We have seen breakthroughs in the science of adhesives, membranes, and underlayments, along with increases in maintenance products and floor-covering materials. Overall, both installation methods and covering materials have seen steady improvements in strength, flexibility, variety, and versatility.

That versatility is also prevalent in the types of raw materials that are becoming more frequently used in the construction industry. Designers and technicians alike have access to a wide range of choices today, including unique and exotic species of wood from around the world, and a variety of flooring mediums that include a multitude of textures from specialty ceramics and glass to stone and stained concrete.

PHOTO BY HESTER + HARDAWAY

Polished concrete provides a flooring option that improves light reflectivity, which can brighten its space up to 30 percent, reduces cleaning time, and improves the durability of surfaces. Pictured above, De Santos Gallery by Brave/Architecture in Houston used stained concrete as an element of their design.

New Challenges

We would be remiss in the discussion of these new advancements if we did not acknowledge that the progress is accompanied by new challenges. In fact, we often encounter restrictions or even necessary accommodations when we incorporate the new materials. Although aesthetically pleasing, we must not forget that these exotic raw materials can carry with them idiosyncratic sensitivities to moisture, alkali, and/or dimensional growth factors. Unfortunately, if untrained labor sets these materials in an unacclimatized environment with moisture and alkaline-related conditions, a significant and costly failure is almost inevitable.

Certain environmental restrictions, such as the elimination of asbestos and chlorinated solvents, have caused major adjustments to occur in the way products are manufactured, disposed, installed, and maintained. This adds to the long list of necessary adjustments to how materials are manufactured, specified, handled, installed, and maintained in order to avoid serious floor covering failures. The necessary response to particular restrictions, such as stringent regulations on emissions and the release of kiln gases into the atmosphere, has led to changes in the composition of cement. This in turn affects the properties of concrete and the control of alkali.

Although there have been some improvements in the options available for concrete mix design and performance, we find new challenges in prescription and performance specification writing. The current recommendation in the *ACI 302.R-04 Guide for Concrete Floor and Slab Construction* as to where (or even if) to place the vapor retarder/barrier may not agree with some current philosophies of placement and vapor/barrier thickness. Despite the potential for improved efficiency in the installation of concrete that results from the use of curing compounds over a wet cover cure, those compounds prevent adhesion of most floor covering products. Ultimately, the time savings at the concrete stage needs to be weighed against the additional cost that could be incurred while removing such compounds to prep the concrete for floor covering.

In the same vein, there is confusion regarding testing standards. The method used to test concrete for moisture has come under great scrutiny, including the recent publication of two ASTM standards for testing the relative humidity in and on concrete versus the use of calcium

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chloride to obtain moisture vapor emission rate. With so many vital decisions to be made regarding concrete specification and a successful floor covering installation, it seems that with every answer follows yet another question.

Appropriate Actions

Our rallying cry has to be, "Out with the old and in with the new!" We have no choice. Old habits will have to die. The changes occurring within the CSI Specification Divisions, LEED, ASTM, ANSI, and the various changes with floor coverings and other materials are inevitable evolutionary steps. We cannot fight progress. However, we can respond by being proactive professionals and involving ourselves in this evolutionary process.

Now, more than ever, we must remain ahead of this advancement curve and stay current through continued education. We have to press for more detailed and appropriate specification and industry standards. Most importantly, we have to keep the lines of communication open between the various members of the design team to ensure that throughout the building process we stage jobs appropriately, test for moisture correctly, and condition the building envelope sufficiently. As always, the professional's ultimate goal is to ensure a quality end product for our consumers.

Claudia S. Lezell provides accredited training and inspections for design professionals. Lezell has also also directed the hard surface inspection program for the Institute of Inspection, Cleaning and Restoration since 1996.

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"A National Historical Monument"
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Shaping the Experience

Expressive ceiling types and designs enhance the environment at DFW International Terminal D

by JENNIFER JOHNSON, AIA, AND MARIA ZUNIGA

COURTESY GORDON, INC.

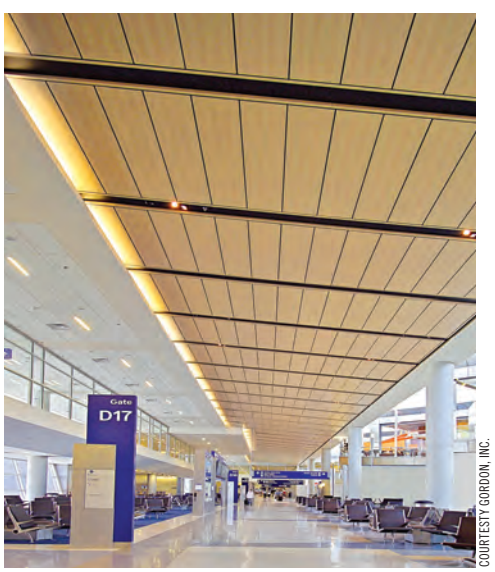
THE large spaces in an airport terminal, like most of the spaces we experience, are made of walls, floors, and ceiling. And while the majority of an architect's time is spent on developing the floor plan, it is the walls and ceilings that shape the experience of the visitor, and so it is at Dallas-Fort Worth's new International Terminal D.

Flying is all about looking up and out, so it is fitting that the ceilings are the most expressive planes in Terminal D. By simplifying the palette, the design impact was strengthened. There are three major types of ceilings in the new two million square foot facility: acoustic tile, angular wood planes, and vaulted triangular metal ceilings.

Acoustic tile is used throughout the terminal in gate lounges, corridors, and office spaces. Their design matches the modulation lines established by the rest of the finish materials.

Angular wood planes were used in the International baggage claim hall at the arrivals level, and security check points and concourse circulation at the departures level. Tilted wood planes frame both non-secure and secure sides of the check points, creating a portal into the space, allowing the ceilings to guide the passenger through the area. Extending for over 840 linear feet at a height of 25 feet, large format wood planes add movement and character to the circulation corridors along the North and South sides of the terminal. Black metal troughs were introduced between planes to house the smoke detectors, lights, speakers, and signage rods.

The sweeping curved metal ceilings at the ticketing halls, INS hall, and two concession villages are white, perforated metal 5'x5'x7" triangles. The flat panels are faceted to achieve the curve that is indicative of the sweeping stainless steel roof line above. No lights are mounted into the ceiling but instead on the walls so it can wash across and accentuate the curve. Sprinklers are mounted into a custom grid and always hit on intersection points of the triangles to respect the geometry of the panels. The grid of triangular metal panels appears to be suspended



COURTESY GORDON, INC.

(top) The curved triangular metal panels of the ceiling highlight the architecture of the space by duplicating the curvature of the roof. (above) The rhythm and warmth of slanted wood planes used in the ceilings define the passenger movement through Terminal D.

DALLAS-FORT WORTH
TERMINAL D

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in the space, as it rests on the perimeter clerestory allowing natural light inside the 60 foot-high spaces.

One common element in the design of the ceilings at Terminal D is that they were kept as clean as possible so the material and form would read through. This was no small task with the multitude of devices required in modern day public facilities: lights, mechanical grilles, speakers, sprinklers, exit signs, strobe lights, signage, and security cameras. With the use of wood planes for warmth and movement, and graceful vaulted triangular metal panels for containment of the grandest spaces, the ceilings complement the magnificent architecture of the building.

Jennifer Johnson, AIA, and Maria Zuniga were part of the Corgan team working on this project. Corgan Associates was the architect of record for DFW International Terminal D.

The main corridor of the Foreign Flag Lounge used laminated glass in a suspension system. The illuminated backside of the panels are used to convey the look of a skylight.

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"Green Roofs" continued from page 19

larly powerful, green roofs afford a considerable opportunity to reduce urban heat loads created by acres of paved and impermeable surfaces. Vegetation absorbs and transforms solar radiation through evapo-transpiration rather than reflecting it, and lower ambient temperatures help counteract the heat-generating conditions of urban and suburban areas.

Recent projects in central and eastern Texas are beginning to illustrate the "regional" green roof. The Lady Bird Johnson Wildflower Center in Austin is host to a unique demonstration study which brings together expertise in native landscapes and the roofing industry. Begun in early spring, the study presents the first thorough research into local application of extensive green roofs with local flora. The brainchild of roofing consultant Brian Gardiner, the project received its primary funding from the Roof Consultants Institute Foundation last year and was aided in design and implementation by Steve Windhager Ph.D., project director, Mark Simmons Ph.D., Heather Venhaus, and Jeannine Tinsley, all at the Wildflower Center.

Over a period of several years, the researchers will monitor a series of 25 waist-high, 5 x 6-foot, flat-top structures to measure and document various aspects of a functioning green roof. To date, control and trial mock-ups for one roof manufacturer have been built on the Wildflower Center's grounds, including a conventional (dark-colored) membrane roof, a "cool" (reflective) roof, and a planted roof with a proprietary soil mix layered four to five inches deep. Once installation of the full range of planned roofs is completed, the team will evaluate the performance of several green roofing manufacturers and compare data on surface temperatures, moisture retention and drainage, supplemental irrigation, water filtration and quality, and plant regime. Although additional mock-ups will isolate and experiment with different plant types, plant selection is held constant across the majority of the mock-ups, highlighting native species of sages, daisies, primroses, yuccas, and grasses. (Sedum, the green roof "poster plant" elsewhere, is used only sparingly.)

The energy and enthusiasm of the research team and the volunteers, as well as the financial support from several private companies, have made the project a focal point for regionally specific green roofs, and a springboard for more research and activity. For those skeptics who raise red flags at the prospect of leaky roofs, it is worth noting that the effort has been spearheaded by someone with professional roofing expertise. This fact in and of itself helps to push green roof technology into mainstream consideration as a viable roofing option.

One of the early lessons learned at the Wildflower Center appears to be one of the initial successes—the plants, chosen carefully for their hardiness and adaptability, are thriving. A similar approach to plant types has been adopted for use in two other local projects, including this year's University of Texas at Austin's entry in the U.S. Department of Energy's Solar Decathlon. The second project is a new commercial property developed by Austin-based Stratus Properties and architect Gary Payne with Dallas-based Enviroplan Architects & Planners. The project includes an 8,000-sf Starbucks that will showcase planted rooftops using a proprietary assembly of 2 x 4-foot, tall-sided trays set in a continuous field. In both cases, the green roof designers opted for a conservative approach in these early applications by using a deeper soil matrix of eight inches to buffer against temperature and moisture swings. The planted areas – swaths of flowering or grassy natives – are intended to be seen and enjoyed from certain perspectives while also offering an educational glimpse of roofing alternatives.

> Current green roof demonstration studies in Texas will compare data on surface temperatures, moisture retention and drainage, supplemental irrigation, water filtration and quality, and plant regime.

Demonstrated successes in different parts of the state will certainly encourage awareness, education, and incentive programs to match those of other cities around the world. AIA Houston's Committee on the Environment recently held a two-day workshop-style seminar that centered on local case studies and holistic thinking, inviting participants as diverse as health professionals and soil scientists, in addition to architects and landscape architects. One of the aims of the gathering was to present an indigenous approach to green roofs in which common design solutions for northern climes are replaced by solutions and species that work in Houston. (Sedums were a disappointing flop in one large project). Another focus of the session was the idea of enabling people to design their own green roofs with a good understanding of the essential principles and elements involved in order to better specify appropriate systems, including non-proprietary components.

What are the opportunities, challenges, and constraints for green roofs in Texas? How do they vary from region to region? What techniques can we use to appeal to the public, stakeholders, policy-makers, and architects to advance the technology here? Are green roofs for every building, or should we be discriminating, i.e., pick the best battles? Are the best battles small houses, "big box" stores, flagship civic projects, or a combination of all? How do green roofs mesh with the larger aims of the home-grown sustainability movement? These kinds of questions are the focus of the research of Dylan Sieglar, a Wildflower Center intern who is currently studying for a Master of Science in Sustainable Design degree at UT Austin's School of Architecture. Particularly interested in the nature and obstacles of technology transfer, she is examining the larger context of issues surrounding the implementation of green roofs in central Texas.

Drawing from her experience and contributions to the Wildflower Center study, and looking at promising methodologies such as co-evolving technologies and capitalizing on local opportunities, Sieglar says her research seeks to uncover "an effective process by which green roof 'best practices' might reach policymakers, the building industry, and end-users." The goal of her research, she says, is to give green roofs a place in the sustainability toolbox in central Texas, if not beyond. Because this work will include input from a wide range of stakeholder types, it stands to offer valuable insight and gainful techniques to overcome barriers, whether perceptual, code-based, or other, to the adoption of a technology that can make great strides in the quality of our environment. In the meantime, there is plenty of room for trial and exploration, and for sharing the news along the way.

Architect Lauren Woodward works with Stanley Architects and Artisans in Austin.

More information about research on green roofs is available at www.wildflower.org, www.greenroofresearch.org, and www.greenroofs.com.

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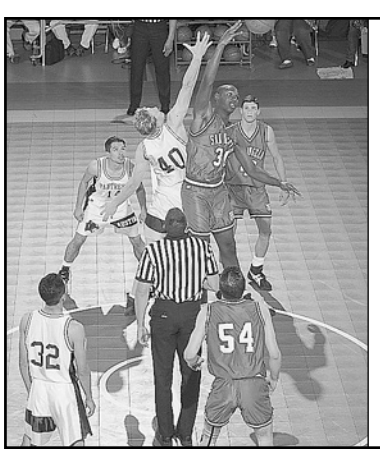

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TRENDS OF THE TRADE

Hurricane Katrina: Implications on the Construction Industry

By size and scope, Hurricane Katrina ranks as the costliest natural disaster in U.S. history. The total cost of the devastation is expected to reach $125 billion or more. The Federal Emergency Management Agency (FEMA) indicates that as many as one million people were displaced by Hurricane Katrina. In both Louisiana and Mississippi, people's homes and livelihoods were completely demolished. Since Katrina made landfall on Aug. 29, Texas has taken in more than 230,000 people left homeless. Assessing the effects from Katrina is a complex process and new information becomes available each day, leading to a re-evaluation of prior assessments.

The post-Katrina environment has both positives and negatives for the U.S. construction activity. The major positive is that the U.S. economy appears capable of absorbing the shock from Katrina, without slipping into recession. The major uncertainty for the overall U.S. construction industry remains the price and availability of building materials, meaning that the industry as a whole will continue to adjust to a higher cost structure.

The area impacted by Katrina in the Gulf of Mexico was defined by the U.S. Census Bureau in a Sept. 6 release to include 31 parishes in Louisiana, 15 counties in Mississippi, and 3 counties in Alabama. Of this 49-county region, the heaviest damage was experienced in five counties and of the five, three were in New Orleans – Orleans Parish, La.; St. Bernard Parish, La.; Jefferson Parish, La.; Harrison County, Miss.; and Hancock County, Miss. As for the extent of the destruction, the three parishes in Louisiana not only sustained wind damage, but they were also hit by flooding due to breaches in the flood walls of three major canals: the Industrial Canal (which borders Orleans and St. Bernard Parish); the 17th Street Canal (which borders Orleans Parish and Jefferson Parish); and the London Avenue Canal. Most of the flooding occurred in primarily residential areas. These three parishes alone contain nearly 431,000 housing units. Recent estimates suggest that over 60 percent of Orleans Parish and nearly 100 percent of St. Bernard's housing stock will have to be rebuilt.

As for the area's infrastructure in the impacted region, reconstruction work has been estimated to cost $3.5 billion. This would cover shoreline protection, repair to roads and bridges, cleanup and repairs to drinking water and waste water systems, and repair to power stations and communications lines. Transportation infrastructure will cost about $1.5 billion and will include the rebuilding of US Route 90, the replacement of the twin spans of I-10 that cross Lake Ponchartrain from New Orleans to Slidell, and the rebuilding or selected repair of major bridges along I-10 in Mississippi, and across Mobile Bay. In addition, there will be significant costs for repairing environmental projects with an estimated cost of $500 million required for cleaning up drinking water systems in New Orleans, rehabilitating the flood water pumping systems, and repairing the levees and dams that gave way in the city. Finally, there are general cleanup costs for removing debris and related materials, which the U.S. Corps of Engineers has already allocated $1.5 billion to accomplish.

In the immediate aftermath of Katrina, Congress passed two relief packages. There was an initial $10.5 billion to assist FEMA in meeting the needs of the local area, and then a second package of $51.8 billion. Of the money authorized so far, $23.2 billion is designated for temporary housing and other financial assistance to individuals.

— *Compiled from reports by McGraw-Hill Construction and the* Washington Post.

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TRENDS OF THE TRADE

Implications Addresses Advancements in Retail Design

The August 2005 edition of Implications, a monthly online newsletter published by InformeDesign (*www.informedesign.umn.edu*), features Bruce Brigham, FASID, principal of Retail Clarity Consulting, based in Puerto Vallarta, Mexico. Brigham explores two important areas for design professionals to consider when embarking on a new retail design project – lighting and company branding. Brigham discusses how store lighting continues to evolve in response to the integration of new technologies, energy demands, and the needs of an increasingly astute and sophisticated customer base. Several developments related to the lighting of retail environments are highlighted, including store brightness, lighting atmospheres, colored lighting, ceramic metal halide lighting, and the development of LED technology. The second part to Brigham's article discusses defining a brand strategy for clients. He addresses factors that designers need to take into account to determine the most effective branding strategy that correctly defines a company's position in the competitive retail marketplace. InformeDesign, a clearinghouse for design and human behavior research, is a close working collaboration between the American Society of Interior Designers and the University of Minnesota.

Bracing Solutions for Narrow Walls

Hurricanes, earthquakes, and other high lateral-load events in the last 15 years have magnified industry attention on lateral-load resistant construction in residential structures. Recently, APA – The Engineered Wood Association introduced a site-built solution, the Narrow Wall Bracing Method, which is simple to construct, uses common building materials and methods, and incorporates the structural advantage of walls fully sheathed with plywood or oriented strand board. This method was introduced in the 2004 supplement to the International Residential Code (IRC R602.10.6.2) and may be used over rigid (concrete or masonry block) foundations, such as garages. Many state and local jurisdictions have adopted the bracing method, and builders are following suit. Wall bracing is described in Section R602.10.3 of the IRC. Of the eight bracing methods listed in the IRC, the wood structural panel bracing type has the fewest prescribed limitations and thus the widest number of options to homeowners, builders, and designers. There are two alternate braced wall panel types with even wider application potential, which includes continuous structural panel sheathing and alternative braced wall panels. For more information on the Narrow Wall Bracing Method, *visit www.apawood.org*.

ASHRAE Research Plan Provides Guide for Sustainable Future

Providing navigation for a sustainable future is the goal of a new research strategic plan developed by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE). Outlining ASHRAE's research goals for the next five years, it centers on sustainability. The plan contains goals in five targeted areas, including energy and resources; indoor environmental quality; tools and applications; equipment, components, and materials; and education and outreach. To view the plan or for more information, visit *www.ashrae.org/research*.

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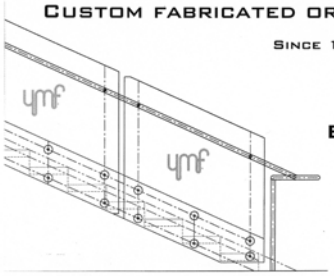

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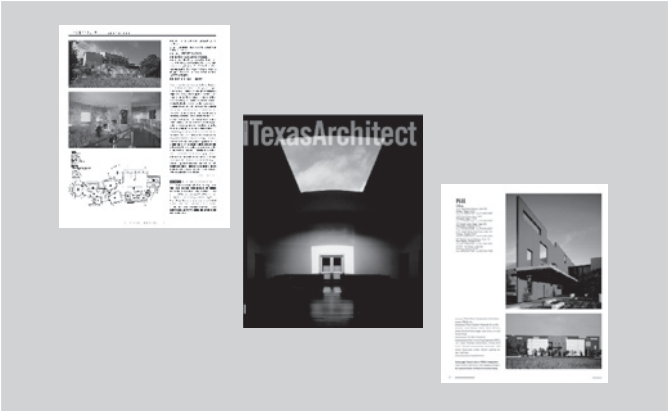

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In Between

by VAL GLITSCH, FAIA

I became interested in photography while studying architecture as an undergraduate at Rice University. There, I studied with Geoff Winningham, a professor, and Lee Friedlander, a visiting artist, in the Art Department. Later, in graduate school at the GSD, I explored the relationship between photography and architecture for my Masters II Seminar. Specifically, how photography has encouraged the globalization of architectural language; how regionalism blurs under photography's transference of style-over-function imagery; and how photography defines our recognition of *good* architecture through the familiarity of publication.

Yard **by Val Glitsch, FAIA, won First Place in the 2005 AIA Architectural Photography Competition sponsored by AIA St. Louis.**

About eight years ago, as a visiting critic at UT Austin's School of Architecture, I started feeling the press of images I was passing while commuting between Houston and Austin. I began driving more slowly, accumulating a series of black-and-white slides that I called "Between Here and There." When I viewed those images next to color slides of the architectural work I was producing in my Houston office, similarities surfaced—between the materials, the simplicities of form, and the directness of design. I eventually structured two lectures at UT around these paired images.

Five years ago I began to feel drawn [personally] westward across Texas and into New Mexico. Enticed initially by the bigness of an obvious topography, I became captivated by the region's Zen-like adaptations to the scarcity of water. I also discovered that my prejudice for the bright light of high noon, certainly the most stunning condition the Southwest sun offers, was not actually the most revealing. I was romanced, instead, by the quieter, less intrusive, hushed tones of early and late light. Around that same time, I was drawn [professionally] eastward to design a coastal house in South Carolina. There, my Houston-born despair of humidity-heavy heat was, for the first time, mitigated by the presence of an almost-tidal breeze. Suddenly, I could stand still and still stand the lingering sight of all that green. Sparseness and lushness— two very different aspects of fullness.

The extreme contrasts of visual life are what occupy me now—empty scenes full of stuff unconsciously arrayed. It is the space *in between* the objects of desire that I see and photograph. It is the same with my architecture. To me, "the place the stuff makes" is more meaningful and telling than the "stuff." I have never been partial to monuments, those buildings that carry a sense of grandeur, pomp, and patriarchy. Instead, I lean to the background, the glue that makes it all stick—the interstitial tissue that bridges events, often over-looked.

Through photography I try to define for myself the beauty that exists in these ordinary, in-between places that sit in plain sight. They are figure and ground, landscape and architecture—simultaneously natural *and* manufactured, discovered *and* invented. Photography allows me to hold onto these apparently un-designed places that I find so appealing.

Val Glitsch, FAIA, imagines pictures *and* buildings, mostly in Houston.

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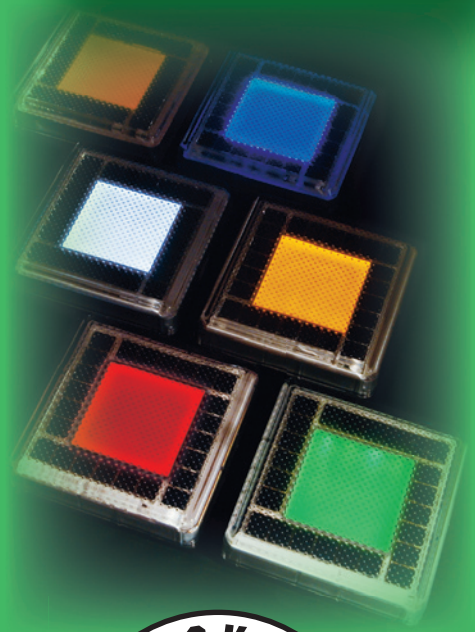

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